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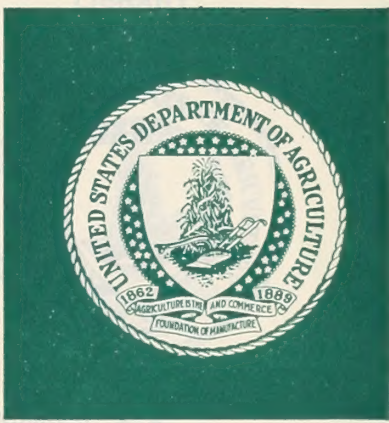
U.S. DEPARTMENT OF AGRICULTURE

FOREST SERVICE

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SERVICE BULLETIN

CONTENT'S CONFIDENTIAL

WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES. IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT ***THE TIME HAS COME FOR A CHANGE. AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY *** TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES. WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER.

Reston Roosevelt

Vol. XIX NO. 1

Washington, D. C.

January 7, 1935

A LOOK AT THE PAST AND FUTURE IN RANGE MANAGEMENT

By C. E. Rachford, Washington

The beginning of a new year is always a good time for reflecting over the past and making plans for the future. This is especially true with the administration of the grazing resource, since the close of 1934 also marked the close of the 10-year permit period. Ten years ago we were in the midst of a depression. At that time, thought was being given to ways and means of stabilizing all industries. The security of going concerns far outweighed the importance of new industries or new men in old industries. It was in recognition of national thought at that time that the Forest Service bent every effort to aid in recovery. Our grazing regulations were completely revised, long-term permits provided for, and protective restrictions thrown around the existing user.

At that time we were convinced our carrying capacity estimates and actual stocking were sufficiently conservative to justify long-term permits with reasonable assurance that numbers of stock would not be seriously curtailed. At that time, also, it was felt that the livestock business did not justify more producers, that new settlement was out of the question, and that if we could just hold the "status quo" everything would be lovely. But much can happen in a period of ten years. Our expectations of ten years ago failed to materialize in many ways. One cause was the long-protracted drought, resulting, according to most estimates, in a decline in forage production of 30 percent. Another pertinent fact is a complete change in national thought as it relates to keeping the wheels going.

The stability of the livestock business now does not seem half so important as the stability and maintenance of homes, the furnishing to our population of a reasonable chance to labor, and the public necessity of better integration and correlation of uses.

As in 1925, we are again in the midst of a depression. While banks and stockmen clamor for the "status quo", residents with small farms and large families clamor for a little assistance from Uncle Sam and are not backward in reminding the Forest Service of its promise (implied at least) that at the expiration of the term permits some provision would be made for them.

The havoc played by drought on many ranges must be repaired. This in itself means further disturbance of the so-called economic situation. Add to this the demands of the recreationist, the game enthusiast, the irrigationist, the nature lover, and the "town lads," and you come to realize that the resources of the National Forests are inadequate to meet the demands of all. Of necessity, the individuals concerned must make some sac-

rifices. The forest land must be restored to full productivity. That is one of the surest ways of making the resources contribute to the utmost to the needs of all.

So, with the beginning of the new year, the Forest Service faces new and greater responsibilities. These were emphasized during the recent grazing conference at Ogden and incorporated in the policy statements formulated by the Regional Foresters and Mr. Kneipp acting as a Policy Committee. While space does not permit a review of these statements, they will, after acted upon by the Forester, convince one that the Forest Service is living up to its social obligations, with full confidence that it will have public support as soon as the issues confronting it are brought into the open by full discussion, careful analysis, a statement of objectives, and a determination to render "the greatest good to the greatest number."

New responsibilities and problems are always an incentive to higher endeavor. The organization is undismayed, but faces the future with good cheer and will meet the issues with charity and consideration for all, and malice toward none.

AERIAL FORESTRY

By Howard R. Flint, R.1

November 2, 1934, marked the close of the tenth and greatest season of aerial activities over the Forests of R-1. It may now safely be said that aerial work along several lines has become an established part of the routine of the Region. It is, indeed, a long and eventful flight from July 8, 1925, when the two first old, wooden chip-baskets, designated as De Haviland 4-B type, arrived at Spokane Airport to demonstrate, - in the face of unanimous doubt and distrust, strengthened by a fair measure of genuine fear, - the feasibility and the practicability of using airplanes to increase visibility, shorten distances, and level off hills in Idaho and western Montana.

During the 2500-odd hours of flight, we have been called upon to perform numerous tasks, many entirely possible, some bordering on the miraculous and the fantastic, a few dangerous, all interesting, intriguing, successful even in failure because they have helped to show a better way to do or not to do the things we wish done.

There is no boast, and none of the sort of pride that traditionally travels with a fall, in the humble statement that in the ten seasons - the 2500 hours, the 220,000-odd miles - no man, either flying personnel, passenger, or bystander, has been seriously injured in the R-1 Forest flying. No man in the Forest flying has ever yet left a ship otherwise than on his own feet. Of the 14 pilots who have done nearly all of our Forest patrol and transport flying, four have crashed out in other kinds of flying. The others are still prominent and active pilots in air mail, commercial, or military flying. One commercial plane has been crashed out on forest patrol, no other one seriously damaged. Three of the planes used on forest patrol and photo work since 1928 have been crashed out on commercial work. Only those who have participated most actively realize how often, how long, how graciously Lady Luck has smiled. Nevertheless, the most fatalistic among them believe that careful selection of men, tight specifications, thorough study and planning and constant vigilance have had some subtle influence in holding the fickle lady's favor. May she remain sweet and gentle.

In 1925, there were in the Forests of R-1 not one prepared landing field and not more than five or six natural meadows in which a plane might land and take off with a fair degree of safety and only a mild cold sweat on the part of the crew. Today we have, widely distributed back within the Forests, twenty negotiable fields which can safely receive a

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skillfully handled, loaded transport plane. There are four or five more fields coming up and we have contributed promotion, labor, or equipment to several fields in nearby towns.

THE RECORD FOR 1934

AIRPLANE ACTIVITIES - REGION ONE - 1934

IN CONNECTION WITH FIRE CONTROL

(A) <u>Air Patrol</u>		(B) <u>Transp. of Men or Supplies</u>	
(1) No. of planes	3	(1) No. men transported	1,089
(2) Total No. hours flown	145	(2) Total No. hours flown	769
(3) Total cost	\$3,026	(3) Supplies and Equipment	
		Transported (lbs)	202,800
		(4) Total cost	\$16,839

OTHER ACTIVITIES

(C) <u>Aerial Mapping</u>		(D) <u>Water Dumping Experiment</u>	
(1) Total No. hours flown	237	(1) Total No. hours flown	2:25
(2) Total cost	\$6,168	(2) Total cost	\$131.25
(E) <u>Game Management</u>			
(1) Total No. hours flown	2		
(2) Total cost	\$40		

Grand Total Hours Flown 1934 -115:25

Grand Total Cost 1934 \$26,204.25

Only sources of disruption of 1934 flying plans: long haggling in Washington over approval of our survey plan and flying contract; forty days of ghastly gray smoke in the heart of the photo-mapping season. No photo flight was made August 11 to September 19, inclusive. More than half of these days were sufficiently cloudless to permit photography had the air been reasonably free of smoke over the areas set up for the photo work.

The photo-map program for the season comprised 4500 square miles. About 4100 square miles were covered, some of it outside the original program. On the photo job this year, more square miles per hour than ever before. Reasons: more experience and skill, finer instruments, other work subordinated to this job. Most important and difficult part of the job is the scenic Mission and Swan Ranges, higher than two belligerent cats' backs, wild winds, crazy clouds, done from 17,000 feet above sea, supercharged 420 horsepower engine, artificial oxygen supply, sheep-hair pajamas and thermos bottle coffee for the dizzy crew who know now why the sheep herders say that the altitude makes them "that way."

We can do better next year.

"FIELD CLOTHES"

By Jno. D. Guthrie, Washington.

There's been too much written about uniforms and too little attention paid to existing instruction on uniforms. I doubt if some of our leading uniform writers have looked up the dope in the good old Manual on this subject. Let's stop writing about uniforms and wear the prescribed field clothes a little more, especially the prescribed types and colors of hats and ties.

There are a few things about the Manual uniform instructions which I don't like at all and which I believe should be changed. One is the Norfolk jacket cut. It always makes a ranger look narrow-chested, and everybody knows we have very few narrow-chested rangers - most of them are the barrel-chested type. It doesn't give enough play for the arms and

shoulders. I much prefer a looser-fitting, bigger-pocket, bellows-back cut of coat, with a split-tail, and a 4-inch lap-over for the flap (See cut).

Secondly, I would like to see serge left out entirely of the fabrics. Serge is no cloth for the outdoors, it never was, nor never will be, - it's an indoor cloth. Would you pick out a blue serge for woods wear? No, - then why buy a green serge for such wear? Whipcord and tweed are the cloths for field or outdoors use. Let's use some common sense about our field clothes. I would have optional whipcord or tweed (with forestry green khaki or bedford cord or twill, for summer), either breeches or slacks, with a much looser, more comfortable cut coat.

But whatever cut or fabric we use, remember that what tops off any uniform or field clothes are the hat and the tie. Any forest officer - whether Assistant Forester or Assistant Ranger - who is caught wearing an old black fedora, a brown derby, or a red or blue tie with the uniform or field clothes, ought to get a black mark in his personnel record and besides receive a 2-months' disciplinary furlough; for a second offense, he should be beheaded, his head mounted and hung in the Forester's office!

Here's my suggestion for giving a touch of distinction to our field clothes:

1. Change cut of coat to a looser-fitting style (not form-fitting) (see illustration).
2. Adopt a system of forestry-green braid sewed on the sleeves to show length of service - one $\frac{1}{4}$ -inch stripe for each five years (See Service Bulletin of 1/28/24).
3. Wear on the collar - one on each side - a small reproduction of the Service badge, made into a button with a screw back; these would be worn on the coat collar and on the shirt collar when no coat is worn.

These collar ornaments will immediately identify you as a U. S. Forest officer - the old Service shield is pretty well "sold" these days; and you will not need to wear a badge anywhere else - not on your belt nor suspenders. Why attempt to adopt at this late date a brand-new insignia or button? (See Service Bulletin of 10/22/34)

4. Follow the color rules for head-pieces and ties.

The small shields on the collar, the service stripes on the sleeves, a looser-cut "sports" coat, of either whipcord or tweed, and the proper kind of hat and tie, are simple, and yet I maintain will give distinction to our field clothes.

The CCC has done one thing if no other - it has made Federal foresters clothes-conscious; we can thank the Army for that. The CCC has also shown up some Federal foresters in pretty sad-looking uniforms as compared to the average State ranger or even State foreman in a CCC camp.

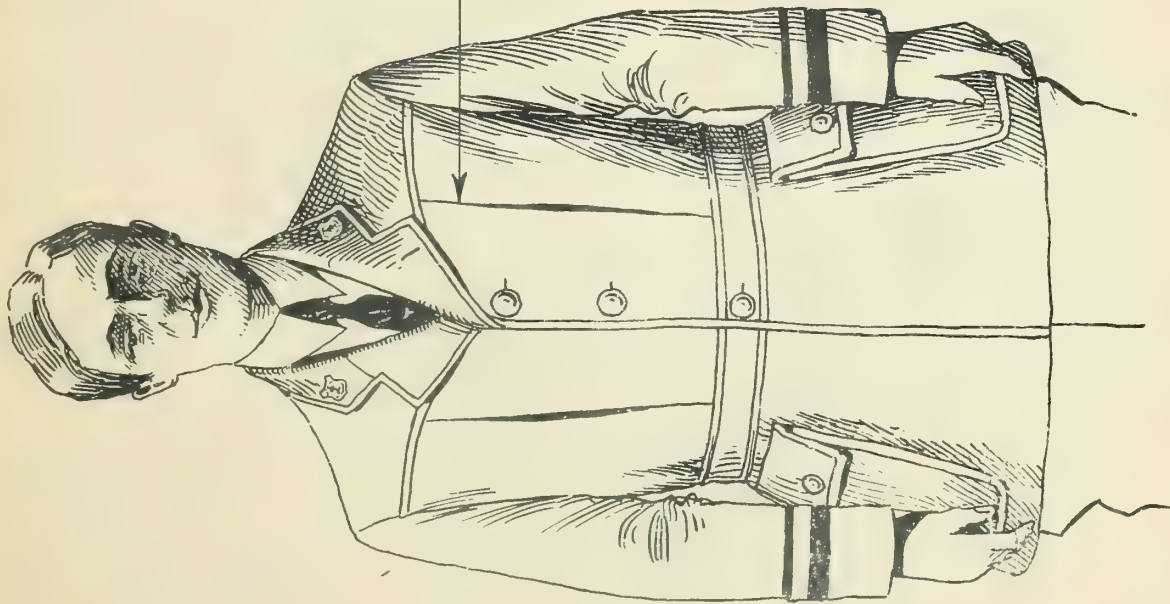
State men aren't talking or writing about forestry uniforms - they are wearing them!

NEW TYPE OF AUTOGYRO IS GIVEN TEST

By E. W. Loveridge, Washington

A demonstration of a new type of autogyro was given last November by the Pitcairn Autogyro Company on the grounds of the War College in Washington. Mr. Rice, advertising representative for the concern, and Mr. Ray, a test pilot, were in active charge of the demonstration. Mr. Pitcairn, a member of the company, was also present. Pictures of the new type of gyro have been in the papers recently, as well as in the movie news releases. It is a very odd-appearing outfit, in that it has no wings. In flight it has the appearance of a coffin with three rotors (blades) above it.

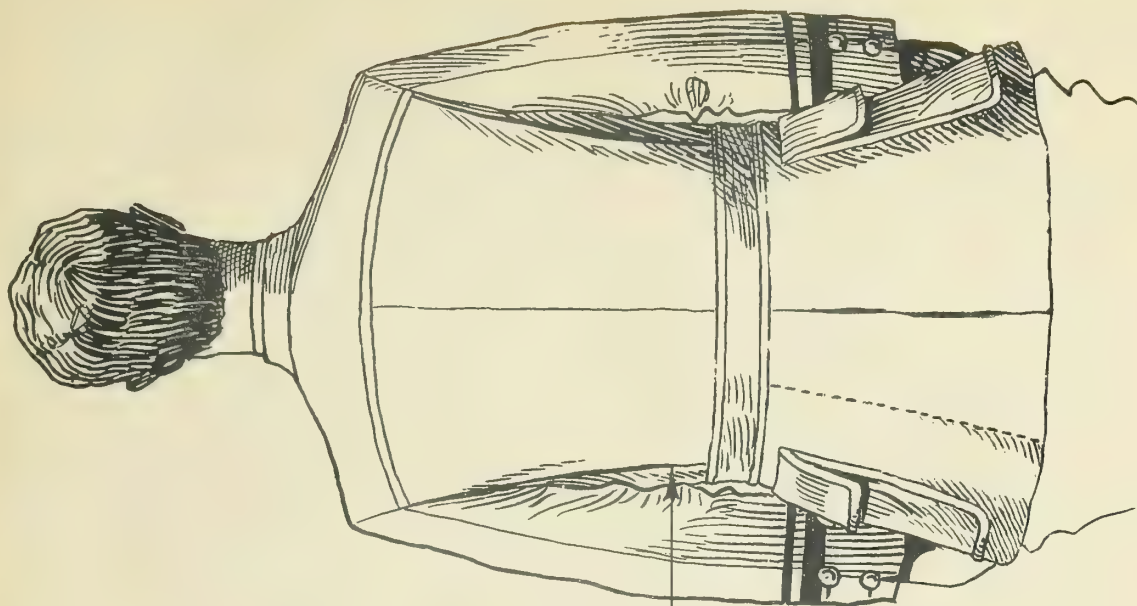
Mr. Ray stated that it is an experimental machine which is not yet ready for the market, but that its performance to date has been exceptionally good. He feels that for



Front Pleat



Back Pleat



FIELD CLOTHES COAT SUGGESTED BY GUTHRIE

forest work a machine with a 200 horsepower motor will be able to do everything that we will want a plane to do, and much better than the old type of autogyro. It will be capable of four or five hours of flight, carrying two men. "The new type," Mr. Ray says, "is much faster than the old, cruising readily at 100 miles an hour and can be designed to travel at 200 miles an hour. I expect to be able to make it possible to drop a man or two at almost any place without entirely grounding the gyro, and likewise to be able to deliver equipment and materials at points not having landing fields."

The experimental model under observation was powered with a 75 horsepower motor; it is of the cabin type with room for the pilot and one passenger. It gave a remarkable demonstration of its "maneuverability", requiring apparently only about a sixty foot run before it left the ground (with only the pilot in the cabin), and landed with an after run of seemingly not more than four feet. In the air it not only was held "motionless" as it settled slowly to the ground, but even gave the impression of going backwards at times. The way it dodged around and just over the tops of trees and the small space required for take off and landing certainly lead to the impression that every ranger should have one if he can be readily taught to handle the machine as well as did Pilot Ray, who stated that "steering" is very simple. The new models will have no movable rudder, all changes of direction being obtained by moving one overhead lever which tilts the rotors back and forth or sideways in the direction and to the extent needed to change the course of the plane.

No figures are available as to the cost of this new outfit. It is very inexpensive in appearance, but, considering the cost of airplane motors and the small production of autogyros, the cost will no doubt be very high. It is understood that although there have been accidents with autogyros, none have resulted fatally. In case of engine trouble the old models can be dropped to the ground at a speed not much greater than a person drops in a parachute. - that is provided the rotos do not break!!

WHAT WILL HAPPEN TO YOUR RETIREMENT FUND?

By O. N. Zimmerli, Washington

In pursuance of a law passed at the last session of Congress the Civil Service Commission has recently distributed blanks on which an employee or annuitant may designate a beneficiary (or several beneficiaries) to receive in event of his death the amount to his credit in the Civil Service retirement fund. This procedure enables an individual to direct the distribution of his retirement accumulation as he provides for the payment of his life insurance. It saves the beneficiary the inconvenience and much of the delay that would otherwise result, and in many cases saves the expense of administration. In the past the absence of simple procedure for placing the retirement funds in the hands of the deceased employee's dependents has been a matter of regret to those concerned and perhaps not infrequently has resulted in hardships. The employee now is afforded a means of directing the distribution of this part of his estate, so that it may be paid to designated beneficiaries without awaiting the appointment of an administrator or the determination of the rights of heirs, which latter sometimes requires a considerable amount of time.

All members of the Forest Service having credits in the retirement fund (which includes all the regular personnel and some now in temporary status) may obtain the blanks for designation of beneficiary from the Regional Forester, Forest Supervisor, Station Director or other official under whom employed. Information concerning the forms and their preparation, if needed, may be obtained from the same source.

To be effective the designation must reach the Civil Service Commission prior to the employee's death. More than one beneficiary may be designated, the proportion payable to each being expressed in decimals or fractions and not in fixed amounts of money. Should one of these beneficiaries predecease the employee, the share of such beneficiary will be distributed equally among those surviving. The employee may also designate an alternate beneficiary to succeed the designated beneficiary in the event the latter does not survive the employee. The beneficiary may be changed at any time should the employee desire it because of a change in relationship or dependents or for other reasons. Such change must be reported to the Civil Service Commission on forms designated for the purpose. The beneficiary cannot be changed by will.

The Government employee who takes advantage of this valuable privilege will have no doubt as to what is to become of his retirement accumulation in event he is unable to utilize it within his lifetime. The retirement credits of those who have been in Government service since the passage of the retirement Act or for several years are reaching amounts that merit consideration by the owner as being a valuable part of his estate.

Designation of beneficiary has these advantages:

More prompt settlement - no delay until rights of heirs can be determined or administrator appointed.

Avoidance of legal intricacies, lawyer's fees and related costs.

No uncertainty as to disposition - gives to the retirement accumulation much the status of additional life insurance.

In some cases may save costs of administration.

The opinion has been frequently expressed that practically every employee should take advantage of this procedure without delay.

YE EDITOR DISCOVERS

There is a strong surge of sentiment on the part of national leaders toward the idea of job relief as a substitute for direct relief, or the American form of the dole. In order to be ready for any demand which may be made upon the Forest Service to provide work relief, previous emergency work estimates have been recompiled to determine the amount of work which the Regions and the Division of Research are willing to undertake during a sixteen months' period beginning, perhaps, about the first of March 1935. These estimates now show a total of \$266,361,000.

For the Service as a whole, an average of something over two million dollars worth of work per month was necessary to complete even a twelve months' period under the Devnira and Impnira emergency programs. In order to execute the 266 million dollars within sixteen months almost 17 million dollars worth of work monthly would have to be done - an increase of over 800 percent in the average monthly volume of work and business handled. It sounds like a lot of work, but the Regional Foresters and the Division of Research have committed themselves to the proposition that they can do this amount of work, if national authorities should request the Forest Service to contribute to this extent in a national program of getting the unemployed off direct relief and onto work relief.

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The annual report of the National Forest Reservation Commission has been prepared for transmittal to the President of the Senate and will be awaiting Congress when it convenes this month.

The report emphasizes the fact that the primary purpose motivating the allotment of 20 million dollars for acquisition largely was accomplished through the land purchases made possible by the allotment. That purpose was to create the best attainable conditions for effective work in the conservation of natural resources by the CCC and by local populations acutely in need of relief employment.

During the fiscal year, 28 new purchase units were created - 1 in Vermont, 1 in Florida, 5 in Mississippi, 4 in Texas, 6 in Missouri, 2 in Illinois, and one each in Virginia, 3 in North Carolina, 2 in South Carolina, 1 in Michigan, Minnesota, and Puerto Rico. A number of large additions to existing units were also approved.

At the close of the fiscal year, the total number of established purchase units was 69, situated in 23 of the States east of the Great Plains and in Puerto Rico. The gross area within their boundaries is 31,286,159 acres; of which 12,141,453 acres was under Federal control at the close of the fiscal year, comprising 2,227,395 acres reserved from the public domain, 252,418 acres acquired by exchange, and 9,661,640 acres purchased or in process of purchase. Of the remainder of the gross area 14,070,139 acres are classified as desirable for purchase by the United States and 5,074,567 acres as non-purchasable because of higher values for other than forest purposes.

During the fiscal year there was approved for purchase 4,206,817 acres at an average cost of \$2.38 per acre. The total approved for purchase since the inception of the work therefore was increased to 9,588,879 acres at an average cost of \$3.38 per acre. Of the total approved for purchase 5,110,167 acres actually has been vested in Federal ownership by final recordation of deed.

Four States during the year granted initial consent to Federal purchases under the Weeks Law within their boundaries, viz, California, Indiana, Iowa, and Ohio. The State of Alabama also made its consent applicable to all parts of the State instead of confining it to the Alabama National Forest, as had previously been the case.

The report mentions three noteworthy changes of acquisition policy which occurred during the year, viz, a wider application of the purchase policy to submarginal farm lands, the employment of a larger proportion of the available funds for the purchase of areas supporting merchantable stands of timber, and a more liberal policy in the acquisition of land along lakes and waterways with outstanding recreational values.

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It takes a real "researcher" to discover obvious truths in matter-of-fact occurrences. Presumably many philosophers reclined at ease under apple trees concerned only that dropping fruit didn't conk them, but only one of them discovered the law of gravity. Observing the plight of an oil company successfully sued by a rancher because waste oil had permanently destroyed the ability of his land to produce crops, an active mind in the California Forest Experiment Station put his theories to the test. As a result 92 out of 100 stumps along the Ponderosa Way in California were discouraged from producing sprouts during the past summer; a trench around each stump was filled with Diesel oil and allowed to soak into the dry soil. Crude oil, or waste crank case oil, he believes, would probably be fully as effective and cheaper than poisoning with sodium arsenite. It is probable however, that the effectiveness of the oil would be limited to dry soils. Experiments are under way to determine proper time for treatment and conditions under which oil rather than chemicals should be used.

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President Roosevelt, by Executive Order dated December 1, 1934, has made a second allocation of Emergency Conservation Work funds to be used for the purchase of lands for National Forest purposes. The amount provided is \$10,000,000. The \$20,000,000 provided in the first allocation has been completely exhausted.

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The National Resources Board has requested for distribution 800 copies of the For-
ester's address, "Opportunities in Forest Land-Use Planning", delivered at the Conference
on City, Regional, State and National Planning, held jointly by the American Civic Association
and the National Conference on City Planning, at St. Louis, Mo., October 24, 1934.

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The fame of the Great Plains Shelterbelt project has become world-wide. The under-
taking is featured in the October number of the Tree Lover, published in London, England.
The article states important facts about the Shelterbelt and quotes President Roosevelt's
executive order of July 11 authorizing the project. It characterizes the project as "stu-
pendous", "colossal", and "history making."

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The National Broadcasting Company will continue its series of Conservation Day
programs in the National Farm and Home Hour every Friday throughout 1935 over a network of
more than 50 stations. The central theme of the series for the coming year which may be
heard each Friday at 11:30 a. m., central standard time, will be "Land Utilization." One-
half of the series will deal with the land problem and one-half will be devoted to more
general conservation topics, such as stream pollution, fish life, wild life, forestry,
and similar subjects.

In addition to the educational talks on conservation, "Uncle Sam's Forest Rangers"
will be heard each Friday throughout the year.

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Once again the Forest Service does its part to develop better international relations.
This time we have Dr. A. H. Meyer, a Swiss forester who is studying American forest condi-
tions under the auspices of the General Education Board. Dr. Meyer is especially inter-
ested in research methods as they apply to growth and management. His first American con-
tact was in New England and eastern Canada. He is now in Washington where he plans to
spend the winter working with F. X. Schumacher of the Forest Measurements Section.



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Theodore Roosevelt

Vol. XIX No. 2

Washington, D. C.

January 21, 1935

SOMETHING ABOUT CCC EDUCATION

By John D. Guthrie, Washington.

In early 1934, education in the CCC camps was formalized by the assignment of Camp Educational Advisers, under the general technical direction of the U. S. Bureau of Education. There was also selected an Adviser for each Army Corps Area Headquarters. These Corps Advisers as well as the Camp Advisers were administratively under Army direction, as technicians in education. Camp Advisers were selected from unemployed teachers of the country. A total of some 1600 Advisers was appointed but of these 595 declined, resigned or were dropped, and because of limitation on funds, the number on duty on September 30, 1934, was actually 1073. With approximately 1500 camps, this means that about 30 percent of the men on duty have more than one camp to handle.

These Camp Advisers represent a wide range of age, education, and experience. For example: 78 percent of the number range from 25 to 44 years old; 58 percent have Bachelor degrees, 31 percent have Masters, 3 percent are Ph. D's, while 8 percent have no college degree. As for background, 78 percent have had teaching experience; 75 percent hold teachers certificates, 15 percent have taught in colleges, 32 percent have had experience in school administration, while 53 percent have had professional or business experience.

Since there is the widest possible range in the amount of schooling among the CCC and since there is no mental test given the enrollees, and because camp study is entirely voluntary, the job of a Camp Educational Adviser is a difficult one. Moreover the men put in on field work 8 hours per day for 5 days a week. The Camp Adviser must know boy human nature, must know much of the technique of guidance, and be a real teacher, if he is to get away with the job. The Adviser may stir up a desire to study in 100 boys, and no ten of them may want to study the same subject; besides many of the subjects selected by the boys may not be practicable to cover in a CCC camp.

Here are some figures based on 182,732 CCC enrollees: As to educational background, $\frac{1}{2}$ percent have had no schooling, 26 percent have had some elementary, 24 percent finished 8 grades only, 32 percent had some high school work, 14 percent completed 12 grades, only 3 percent (or 6,248) had some college work, and $\frac{1}{5}$ percent completed college.

Up to September 30, 18,216 courses were being given in the 1500 camps, divided as follows:

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Elementary work	3,653
High school courses	5,467
College work	1,211
Vocational	5,722
General	2,018
Others	145

The average number of courses per camp was 10, while the average attendance per course was 14. There were 9,119 boys attending night school where the camps are in or near towns; 5,465 were taking correspondence courses. A total of 135,156, or 45 percent, (basis of 182,732 enrollees surveyed) were regularly and voluntarily taking educational courses of some kind. Only about 4,000 were taking courses in forestry (there should be 20 times that number!), while hundreds were studying engineering, surveying, trail construction, tree diseases, etc. At least 10,000 boys are getting some kind of practical training in news-writing and reporting on CCC camp papers (428 camps issue papers); there are 1,000 classes and clubs studying photography. A total of 2,479 illiterates have been taught to read.

In each camp there are two libraries - one a traveling library of fiction, adventure and travel, and a permanent library of biography, science, history, and textbooks. These libraries are popular, a total of 1,427,977 books having been circulated. From a forestry and conservation point of view, these libraries are far from satisfactory.

Since there is no discrimination as to race, color or creed, there are 74 colored companies (4 Veterans) of CCC, the 3rd Corps Area (Pennsylvania, Maryland, and Virginia) has the most, 26, while several Corps Areas do not segregate the colored but mix them with white enrollees. There are 21 colored Camp Advisers.

From what I have seen of them, many of the Advisers are a fine type and are doing splendid work; many are not doing so well. As a rule, in the Western Regions the Supervisory Personnel is very active in the educational work and have mimeographed courses in forestry and related subjects; in the Middle West, East, and South there is apparently not this active interest and participation.

I have heard of no camps giving courses in conservation, and yet these are conservation camps and it is the Civilian Conservation Corps. I wonder how many of the 500,000 to 600,000 boys who have passed through these camps would know the meaning of the word conservation if they were asked?

If these boys do not learn something of the conservation of natural resources while they are in the CCC, it will be the fault of the Civilian agencies who are directing the work; neither the Camp Advisers nor the Army officers can be expected to know much about it. Here's the biggest chance foresters (Federal and State) ever had to educate 800,000 boys from every State in the Union in the rudiments of conservation! Will we seize this chance, or will we be too busy building material things?

PRICE FIXING ELIMINATED IN LUMBER CODE

By B. F. Heintzleman, Washington

The NRA order of December 22 suspended but did not cancel the fixing of minimum prices under the Lumber Code. Theoretically such prices can be reestablished on a proper showing of need by Code agencies but any such action by NRA appears very unlikely, as the apparent policy of the present NRA administration is away from price fixing.

The suspension order covered minimum prices on every item in all Divisions and Subdivisions of the Lumber and Timber Products Industries.

All other provisions of the Code remain in effect, including the highly important Production Control. The industry will continue as heretofore to collect and disseminate information among its operators on cost of production and it will also make available statistics on prevailing market prices. A wise administration of production control coupled with a good knowledge by operators of current costs and prices in the industry may result in a fair degree of price stabilization and this method of obtaining stability may be better received by the public than was minimum price fixing. In any event, the Code still offers some very important advantages to the industry, and with the removal of this highly controversial measure the rank and file of the operators will likely give the Code better support. Also the Code agency officers are now relieved of the tremendous task involved in the supervision of price fixing and will be able to devote more effort to the other important provisions of the Code including the conservation requirements. In brief, the suspension of direct price control may strengthen the Code materially.

THESE STATIONS CARRY RANGER JIM

The latest list of radio stations carrying the serial program "Uncle Sam's Forest Rangers" is announced by the National Broadcasting Company as follows: WJZ, New York; WBZ, Boston; WBZA, Springfield; WMAL, Washington; WHAM, Rochester; KDKA, Pittsburgh; WBAL, Baltimore; WGAR, Cleveland; KYW, Philadelphia; KWK, St. Louis; WREN, Kansas City; WJR, Detroit; WCKY, Covington; KWCR, Cedar Rapids; WLW, Cincinnati; WSYR, Syracuse; WRVA, Richmond; WPTF, Raleigh; WJAX, Jacksonville; WIOD, Miami Beach; WWNC, Asheville; WIS, Columbia; WFLA, Tampa; WHO, Des Moines; WOW, Omaha; WDAF, Kansas City; KOA, Denver; KSTP, St. Paul; WIBA, Madison; WEBC, Superior; WDAY, Fargo; WSM, Nashville; WMC, Memphis; WSB, Atlanta; WAPI, Birmingham; WJDX, Jackson; WSMB, New Orleans; KTBS, Shreveport; KVOO, Tulsa; WKY, Oklahoma City; KPRC, Houston; WOAI, San Antonio; WFAA, Dallas; KTHV, Hot Springs; WKBF, Indianapolis; KFYR, Bismarck; WSOC, Charlotte; WAVE, Louisville; WTAR, Norfolk.

The Ranger program, presented from the NBC's Chicago studios, may be heard over the above stations on Fridays at about 12 noon, central time.

The following stations in the western division of the NBC carry the ranger program, presented from the San Francisco studios, on Thursdays at about 12 noon, Pacific time: KGW, Portland; KFI, Los Angeles; KOMO, Seattle; KTAR, Phoenix; KHQ, Spokane; KGIR, Butte; KDYL, Salt Lake City; KGHL, Billings; KPO, San Francisco.

CONTROLLED DEER HUNT IN KAIBAB NATIONAL FOREST

More than a thousand sportsmen from 10 States participated in the 1934 controlled deer hunt on the Kaibab National Forest in Arizona, according to a report by Supervisor Walter G. Mann.

The famous Kaibab deer herd, which a few years ago was in starving condition because of overpopulation of the range, is now beginning to thrive under intensive game management. The number of deer is maintained at range capacity through controlled hunting.

During the hunting period on the Kaibab from October 16 to November 15 last fall, Supervisor Mann's organization checked in 1,185 hunters, and 1,035, or 7 out of every 8 of the hunters, got a deer, which was the limit. Arizona led in the number of hunters with 1,054, and California was next with 100. Others registered from Oklahoma, Kansas, Missouri, Utah, Nevada, Indiana, Kentucky, and Massachusetts.

The number of deer which hunters are allowed to kill each season is adjusted each

year to the increase in the herds after making provision for losses due to natural causes. The policy is to restrict the total number of deer within the limits of the available natural food supply with sufficient forage to carry the animals through prolonged periods of severe winter weather.

In 1924, according to Supervisor Mann, the Kaibab Forest was heavily overstocked and many deer died from starvation. This year his report shows the range in good shape and improving, and the deer killed were fat with good antler development. One field-dressed five-point buck weighed 229 pounds.

The annual count this year on that portion of the Kaibab opened for hunting showed approximately 16,000 deer and it is estimated that under the present plan of management that number can be maintained permanently.

The first fatal accident in eleven years of controlled hunting on the Kaibab Forest resulted this season in the death of Rex E. Lee of St. Johns, Arizona. Lee, who wore red on his back but none in front, was mistaken for a deer by his hunting companion, Jack Chiono, and shot in the forehead. As a result of this accident, hunters on the Kaibab hereafter may be required to wear red caps and a red sash completely around the body.

Indicating the economic value to local communities of permanently maintained game resources, the report shows that the hunters this year spent a total of \$40,786 with an average expenditure of \$28 by Arizona hunters and \$88 by non-resident hunters. Items of expenditure were listed as follows:

Transportation, gasoline, etc.	\$8,951
Hotel expense, meals and lodging	8,983
Equipment, groceries, clothing, etc.	4,195
Guides and horses	9,132
Incidentals	1,837
Hunting licenses	<u>7,688</u>
Total	\$40,786

IMPORTANT RELATION OF OVERGRAZING TO FARM LANDS IN SNAKE RIVER VALLEY AND ELSEWHERE

Doctor Joseph C. Chamberlin, Associate Entomologist of the Bureau of Entomology and Plant Quarantine, and Robert L. Piemeisel, Plant Physiologist of the Bureau of Plant Industry, both from Twin Falls, Idaho, have shown us how unregulated grazing and fires on range lands seriously affect cultivated crops. These men tell us that:

"In the territory of the Amalgamated Sugar Company (included in the following counties: Twin Falls, Jerome, Minidoka, Cassia, Lincoln and Godding) during the leafhopper-free year of 1933 there were harvested 363,032 tons of beets, representing a gross value to the beet growers alone of nearly two million dollars. During the current leafhopper outbreak year (1934) it is estimated that the total sugar beet yield will be less than 20,000 tons and none of the factories in the territory considered will be operated at all.

"Cooperative investigations conducted by the U. S. Bureau of Entomology and Plant Quarantine and the U. S. Bureau of Plant Industry have shown conclusively that leafhopper outbreaks originate from lands outside the well-cultivated areas, principally on abandoned farm lands and overgrazed, burned or otherwise deteriorated range lands. These areas support large weed populations which serve as host plants for the beet leafhopper.

"None of the important leafhopper host plants occur in significant numbers on range lands where the original vegetation (principally sagebrush together with its associated bunch grasses) has not been destroyed by ill-advised and unsuccessful farming operations, burning or overgrazing and trampling. In brief if all the lands in the Snake River plains

of Idaho were either successfully farmed lands or natural desert range land, the beet leafhopper would be unable to build up economically dangerous populations."

Dr. Chamberlin and his associates have mapped great areas in the Snake River Basin showing the presence of the host weeds upon abandoned farm lands and upon the Public Domain.

The investigations of these men associate the administration of the so-called wild lands very closely with agriculture and show that the administration of these range lands must be by a personnel versed in plant palatability, plant succession, and the other scientific phases of range management. - From Quarterly Informal Report to the Forester, Region 4, October 1934.

I DOUBT IT!

By Francis E. Williamson, Jr., Mount Hood

Ye editor discovers wrongly, I believe, in the November 19th issue of the Service Bulletin.

Forestry or forest control in the United States was considered a national problem by far thinking men as early as 1799 when a law authorizing the President to direct a sum, "not exceeding \$200,000 to be laid out in the purchase of growing or other timber, or of lands on which timber was growing suitable for the navy, and to cause the proper measures to be taken to have the same preserved for the future uses of the Navy." (Act of February 25, 1799 [1 Stat. L., 622]. Also see "Developments of Governmental Forest Control in the United States," by Jenks Cameron.)

On December 19, 1799 the President of the United States purchased Grover's Island, containing 350 acres; and in April 1800, Blackbeard's Island, containing about 1600 acres, both lying on the coast of Georgia.

These units, I believe, might properly be called the first of our now great National Forests.

CCC ACCOMPLISHMENTS

Robert Fechner, Director of Emergency Conservation Work, has recently issued a report covering the activities of the CCC during the 18 months' period ending September 30, 1934. Through this date, the report shows, the young men, war veterans, experienced woodsmen and Indians of the forest camps, had built 41,582 miles of truck trails through the forests, laid 25,089 miles of telephone lines through forest and park lands, opened up 27,898 miles of fire breaks through timbered areas, reduced fire hazards over 825,808 acres of timbered lands, planted 204,000,000 trees, improved 1,392,000 acres of timber stands through removal of obstructions and the thinning out of undesirable trees, covered 2,922,000 acres in a drive to reduce timber losses caused by insect pests, carried on campaigns against tree attacking diseases over 2,657,000 acres, conducted control operations against rodents over 9,672,782 acres, developed better recreational facilities over tens of thousands of acres of National Park, State Park and National Forest lands, constructed 778,000 soil erosion prevention dams and completed a substantial amount of other types of work including flood control, timber surveying, construction of lookout houses and fire towers, rodent control operations and wild life conservation. Since the CCC work began, the enrollees have expended more than 1,605,000 man-days fighting forest fires. More than 900,000 man-days were spent by CCC men on the fire fighting line this past summer and fall. The presence of this large potential group of fire fighters has made it possible to hold fire losses well below comparable years during this past season.

"Work records for the first year and a half operation of the Civilian Conservation Corps make it clear that the CCC has been an outstanding economic success," Director Fechner says. "In addition to giving employment to close to 1,000,000 persons and aiding in the physical and spiritual rehabilitation of hundreds of thousands of young men and war veterans, the CCC has made possible the accomplishment of a huge amount of useful conservation work in the nation's forests, parks and fields."

The estimated value of the work completed by the CCC to September 30 as reported by the various cooperating departments is as follows:

Department of Agriculture	\$223,776,762.56
Department of the Interior	64,327,945.45
Department of War	<u>3,583,735.21</u>
Total	\$291,688,443.22

YE EDITOR DISCOVERS

At last, it seems the Washington Office of the Forest Service is to have a new home. At the time this is being written (January 9) plans are being made to move, within the next month, a substantial part of the organization now in the Atlantic Building to the new extensible building of the Department of Agriculture.

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In order to determine the best location for the Shelterbelt strips, a detailed study of the region is being made under the direction of the Lake States Forest Experiment Station. The work is divided into a series of units. A climatic one, in which an analysis is being made of precipitation, evaporation, recurrence of droughts, temperature, winds, etc., will be partly under the direction of Dr. J. B. Kincer of the Weather Bureau. Dr. Kincer's staff is now engaged in the analysis of weather data to determine the periodicity of droughts, the severity of droughts of different lengths, probability of droughts of different durations, and precipitation and distribution.

Dr. C. W. Thornthwaite, a meteorologist employed on the Rockefeller project of human distribution, is engaged in a study of the effective precipitation ratios for the Middle West.

The soil subject is being handled by the Bureau of Chemistry and Soils. Dr. J. E. Lapham is compiling information on the soils and ecology of the Middle West in order to correlate natural vegetation with soil types as far as is possible. Dr. F. A. Hayes, formerly in charge of the Soil Service in the Middle West, is handling the field examination of soils, and, with the aid of assistants, is compiling data on soil types and soil conditions existing in the Shelterbelt region.

Dr. John B. Aikman of the University of Iowa is making a detailed study of the tree species found in the region as a basis for determining the variations in species and the adaptability of these variations to local conditions.

Dr. Paul L. Fisher, Plant Physiologist, is studying the germination capacity of seed that has been collected for possible use in the handling of shelterbelts.

Other phases of the investigative work are being directed in the Lake States Forest Experiment Station by Zon and C. G. Bates.

In Washington a large number of translations have been prepared from foreign sources indicating the extent to which shelterbelts have been successful in other countries and describing the methods used. It is planned to prepare in the next few weeks a general report covering the Shelterbelt region, as a basis for possible further congressional action. This report will include the results of the preliminary surveys made by the Lake States

Station, and in addition will include material collected and prepared by the Shelterbelt organization at Lincoln. It is planned also to have other chapters, including one to be prepared by Assistant Secretary of Agriculture M. L. Wilson on some human and economic phases of the region.

One result of the repeal of the 18th Amendment was to create a strong demand for white oak staves for beer kegs and whiskey barrels. This stimulated sales on those Forests which have white oak, and put the Ozark Forest of Arkansas in third place in timber sales receipts in F. Y. 1934, ahead of such "timber proud" Forests as the Coeur d'Alene, the Plumas, the Lassen and the Coconino. Supervisor Koen has undoubtedly called to the attention of the Ouachita Supervisor the superiority of oak over shortleaf pine, as thus demonstrated.

T. S. Receipts		T. S. Receipts	
Forest	F. Y. - 1934	Forest	F. Y. - 1934
1. Olympic	\$171,230.28	6. Plumas	\$61,932.27
2. Sncqualmie	119,689.57	7. Tusayan	52,553.32
3. Ozark	97,553.48	8. Kaniksu	44,293.07
4. Coeur d'Alene	91,819.37	9. Lassen	35,137.08
5. Willamette	73,634.21	10. Coconino	34,039.15

The total area of lands approved for purchase by the National Forest Reservation Commission in the last 18 months is more than one and one-half times as great as the total approved during the entire preceding 22 years. Including the approved acreage, the total area under National Forest administration east of the Great Plains is now 14,161,411 acres. Of this, 2,227,395 acres has been reserved from the public domain, 252,418 acres acquired by exchange and 11,681,598 acres purchased or in process of purchase under the Weeks Law.

The annual meeting of the Society of American Foresters will be held in the Shoreham Hotel, Washington, D. C., January 28-29-30. Among the announced subjects to be discussed are: Progress of the Lumber Code, Shelterbelt Project, the CCC, and the editorial policy of the society's publication.

Raphael Zon, Director of the Lake States Forest Experiment Station has been given an extended detail to Washington to assist the Forester in a number of matters. In addition to his participation in Service affairs, Zon will handle questions that arise here relating to the Shelterbelt. Ellery A. Foster, who has been assisting in the preparation of the Land-Use Planning Report, has been detailed to help Zon in the handling of Shelterbelt matters in the Washington Office.

Ivan H. Sims has been transferred from the Appalachian Forest Experiment Station to the Washington Office of Silvics. He will fill the position left vacant when Perkins Coville was transferred to Forest Management.

FRIENDS PRESENT COLONEL AHERN WITH BOOK OF GOOD-WILL MESSAGES

Colonel George Ahern, pioneer forester, was presented with a book of good-will messages from a host of friends and associates, on the occasion of his 75th birthday, December 29. Mr. Silcox made the presentation in Colonel Ahern's home at 1760 Euclid Street, N. W., Washington, D. C. The volume contains greetings from many of the Colonel's old friends, including former Secretary of War Newton D. Baker, Governor Gifford Pinchot of Pennsylvania,

Major General James G. Harbord, John Collier, Commissioner of Indian Affairs, and many members of the Forest Service.

After winning a law degree at Yale University, Ahern became professor of military tactics at Montana Agricultural College. While there, he founded and taught one of the first forestry courses to be given in the United States. He has been a friend of the country's forests and its foresters ever since.

Colonel Ahern was at one time head of the Philippine Forest Service and is the author of two books, "Deforested America" and "Forest Bankruptcy in America." He was decorated for bravery in the Spanish-American War and was secretary of the Army War College during the World War.

PONDEROSA WAY PROVES A SUCCESSFUL FIREBREAK

The Ponderosa Way, an 800-mile firebreak 200 feet wide, separating the timber from the brush country on the San Joaquin and Sacramento Valley boundaries of the central and northern National Forests of California proved its value during the fire season of 1934. This firebreak stopped nine out of eleven large fires from spreading into the timbered regions above the Ponderosa Way.

Forest officers consider this a good record in view of the unfinished condition of parts of this, the world's longest firebreak. Two of the eleven fires which swept up to the Ponderosa Way were carried over it by exceptionally high winds which would have rendered any firebreak useless. The Ponderosa Way stopped a total of 15 miles of going fires with a large saving of valuable timber and watershed cover. - From R-5 News Bulletin

BLACK WIDOW SPIDER SERUM

A serum that counteracts the effect of the often fatal bite of the black widow spider has been perfected by Prof. Fred D'Amour of the University of Denver. This serum is believed to be the first highly potent anti-venom serum against the bite of these spiders. Obtained from the blood of rats that had been given regular small injections of venom removed from the spiders' glands, the serum first proved its worth when a vineyard worker was brought to Prof. D'Amour's laboratory suffering from a black widow spider bite. Although three hours elapsed from the time the man was bitten until a small quantity of the serum was administered under a physician's guidance, immediate relief was given. Vineyardists in western Colorado, parts of Utah, and northern California reported several instances where entire crops of grapes were unpicked last year, due to the packers' refusal to work in vineyards infested by black widow spiders. In some regions throughout the Midwest some tomato vines were badly infested. With a protective serum available, pickers will no longer fear to carry on their work. - Science News Letter, Dec. 1.



SERVICE BULLETIN

CONTENTS CONFIDENTIAL

WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES. IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT *** THE TIME HAS COME FOR A CHANGE. AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY *** TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES. WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER

Theodore Roosevelt

Vol. XIX No. 3

Washington, D. C.

February 4, 1935

THE RANGER DISTRICT OFFICE

By W. C. Ellis, Apache

With all our Ranger District consolidations during the past few years which have increased the Ranger work, and with the preparation of Ranger District Work Plans to justify, very little has been said or done, in most places at least, to assist the Ranger in handling his increased office work. A Ranger is not supposed to spend much time in his office, yet he really has quite a lot of office work that must be done promptly and efficiently if the administrative headache is to be eliminated higher up.

I believe that not enough effort is put forth by Supervisors and Executive Assistants generally in Ranger Office Inspections to properly assist the Ranger along this line. I fortunately have had an opportunity to inspect Ranger Offices in three different Regions and regret to say that, in all cases, I found the Ranger's Files to be a conglomeration of poorly organized past efforts. Of course, these may have been only the worst cases, but that does not seem reasonable. In some instances, case files were found with closing dates as far back as 1912-14. Very few Ranger Station Offices are up to date on destruction of useless material and very few have any systematic method of keeping the files up to date.

During the past twelve months each one of the five Ranger Offices on the Apache National Forest has been inspected in accordance with the Manual Instructions beginning on page 76-D. A Ranger Office Filing Scheme, which is the simplest and best we could get from three Regions, has been prepared and a new set of files placed in each office. A great number of new folders were required for the job, but we feel that the results are worth the cost. With our scheme it is possible for us to prepare in December of each year a complete set of folders for each Ranger District and mail them to the Ranger. By this method the Ranger should be able in two days to destroy useless material, to pull closed case files and mail them to the Supervisor's Office for review, and thus keep his files in good order without additional help from the Supervisor's Office. We are quite proud of our accomplishment and feel that the last frontier of worthless Ranger District Files has been passed on the Apache.

Approximately $4\frac{1}{2}$ days Clerk time and $1\frac{1}{2}$ days Supervisor's time were required on each District. The Ranger worked through it, all going over case files and otherwise helping. The Supervisor's time was beneficial to the work in destroying useless case files and to himself and the Ranger in getting together on many things. It is surprising how many differences and little discrepancies can be corrected on these occasions.

Files are not the only things to correct. I have found very few Ranger Offices in which office fixtures are arranged for any degree of efficient office work. At one place this year the wall set telephone was on one side of the room, the desk by the wall across the room, and the Active Files in an opposite corner. It was necessary for this Ranger to leave his desk and walk across the room every time the phone rang, or he wanted to file or to get something from his Active Files. Here, as in all our other Ranger Offices, we secured a desk telephone and arranged the desk and files in such a manner that the Ranger can do his telephoning, desk work, and filing without leaving his chair. This is only a small matter, but it is a time saver for the Ranger.

I believe our Rangers are well satisfied with the work accomplished. Even the old timers, Jim Newton and Ben Rogers, have passed it with an O.K. Both said they couldn't find anything before and if they couldn't now they were just as well off; and, "It does look purty" says Ben.

With our work done, we consider the Apache Forest on top of the world in so far as Ranger District Offices are concerned, and we are mentioning the accomplishment only for the consideration of others.

SOME ANCIENT FORESTRY REGULATIONS

By Ray F. Taylor, Washington

Foresters have often been amused at the popular conception of forestry in the layman's mind - that is, the pre-NRA conception of planting two trees for each one cut. But note some ancient written regulations published in 1704 and recently discovered in the archives of the Lower Pyrenees by Mr. Etcheverry-Ainchart, Councillor General and Mayor of Saint-Etienne-de-Baigorrry. They may partly explain the origin of the idea, and certainly show a leaning toward forestry legislation.

Art. 22. "No one shall cut any standing tree in the communal forests under any pretext whatsoever without previous permission from the General Court after an inquiry on the part of the Court into the necessity of cutting such trees, under the penalty for the offender of losing the trees he or they might have cut and of paying a fine of three pounds for each stem, of which one fourth shall go to the churches, another fourth to the country, another fourth to the poor and the remaining fourth to the denouncer; those who might have secured such permission from the General Court are likewise forbidden to do any felling until the number of trees they may be permitted to cut are marked by a sworn warden (officer under oath) to be appointed by the Court for that purpose with the injunction that all those who shall be permitted to cut trees shall plant two young oak-seedlings at the same place or in the neighborhood and take care of them until they take root, under a penalty of ten pounds for each stem they will have failed to plant and take care of; nevertheless, every person shall be permitted to gather in the communal forests deadwood and dead branches which he or they may need for fuel or other purposes, treating the forest as a good father of a household should."

Art. 23. "Private persons who live on communal land shall be permitted to plant one hundred trees next to the limits of their holding and not more."

Art. 30. "Although it had been provided by several decisions of the General Court and the regulations of the State of Navarre of 1700 that every householder should plant two trees every year namely, oak or chestnut trees, on the communal lands, the inhabitants of this country do not comply with such regulations and decisions. Therefore, to remedy such condition, be it resolved that every householder of this country shall plant in the

communal forests and on the adjoining communal lands two trees per year, namely, oaks or chestnut trees, under the penalty of a fine of one ducat in favor of the community, and, in order that this regulation may promptly be complied with, the wardens shall be charged to see to it that this regulation be executed and each one of the inhabitants, each one in his section be shown where to plant the trees."

Art. 31. "Several private persons who plant oaks, chestnut and cherry trees on the commons close to the borders of their holdings, pretend to own such trees and appropriate them to their private usage (they, themselves, or their successors), and are not satisfied with the utilization of their fruits. Be it resolved, therefore, that such persons be not allowed to do so without previous permission on the part of the General Court and be held liable to plant two trees in place of the one they have used in the same location of the same species. They are, however, to be permitted to make use of the fruit of said plants in accordance with the custom established."--From: *Revue des Eaux et Forêts* 1933 No. 10.

WHY ECW ?

By Jno. D. Guthrie, Washington

In spite of efforts to the contrary, (See Granger's PR-ECW circ. of July 21, 1933) ECW seems to persist in tagging along in the alphabetical galaxy of the New Deal. It shows its face, however, mostly in office correspondence and seldom in the broad glare of the CCC camps, where it may be said to be hardly known,--except on Civilian trucks. I dare say not many Enrollees would know what the letters mean; I doubt if it means anything to the public; the Army early in the game threw it over for the three C's, labeling their trucks, etc. with CCC. The Civilian agencies still persist in clinging to ECW on their trucks and other equipment, in correspondence, and even using it on their uniform collar ornaments. ECW refers to the Act of March 31, 1933, which was the Emergency Conservation Works Act which brought into being the Civilian Conservation Corps. It would seem therefore that the use of ECW is right and proper in all fiscal and accounts matters, or even in official correspondence; it is a legal or fiscal symbol primarily. But all the world now knows of this youth-employment movement and program as the CCC--these three letters in combination have been pretty well sold to the press and the public. It will go down in history as CCC, not ECW. Why should not foresters and forestry agencies take advantage of this fact, and bask in the sunlight of publicity while the basking is good? Why not start by using CCC instead of ECW on our trucks and other equipment, on our uniform collar ornaments? Why not refer to it as CCC in conversation? Why not be realistic? The use of CCC is good public relations.

HOW SITE AFFECTS GROWTH

A yellow poplar plantation in southern Ohio shows how greatly soil can influence growth and how difficult predictions of planting success can be without knowledge of site conditions. In this plantation the trees showed extreme growth variations within a relatively small area. In one place they averaged from 4 to 6 inches in diameter, whereas within 100 feet no tree exceeded 2 inches. Height growth behaved similarly.

Superficial examination indicated little difference in site as far as surface soil, slope, aspect, or exposure were concerned, but the soil profiles clearly revealed important factors not apparent on the surface. On the area of good tree growth the entire profile down to the parent sandy shale 4 feet below the surface was loose and well aerated. On the area of poor growth the subsoil was much heavier, and in one instance was composed of very tight clay. On the better area the surface organic horizon was from 8 to 12 inches in depth, while on the poorer site it varied from 4 to 6 inches. As there were only insignificant differences in the nitrogen content of these two sites, the combination of upper horizon conditions and character of subsoil caused the difference. How many other plantings have failed because of soil conditions instead of drought, grubs, and poor planting is unknown, but it is safe to say that the character of the soil has seldom been taken into account in reforestation projects.--From Monthly Report of the Central States Forest Experiment station, December, 1934.

WHAT'S WRONG?

By Emma H. Morton, R.6

Something happened to Supervisor Shelley, of the Siuslaw Forest several days ago that gives one cause for thought. A small package mailed at Aberdeen, Washington, and addressed to him personally, was received. It contained a new \$5 bill and an anonymous note, accompanied by an original 6-verse poem dedicated to him in appreciation of some courteous service which he had rendered.

Heading the verse the sender of the gift had written:

"My sincere wish is that this will be taken as an apology and explanation to the ONLY government employee I ever met who dared to go beyond his definitely stated duty to help a stranger, said stranger being only too liable to cause trouble."

Shelley told interested inquirers that he could not recall having done any special favor to any stranger in particular, but he always endeavors to give information or assistance to any visitor to the Forest - which was no more than the public had the right to expect.

There's food for thought in this incident. The author of the note says Shelley is the ONLY government employee he ever met who dared to go beyond his definitely stated duty to help a stranger. This is intended to be an indictment of all government employees. Happily it is not of the Forest Service exclusively. Yet one might wonder whether Forest Officers in general could drift so far away from the traditions of the Service in their treatment of forest visitors that when one specific officer performs some service (which, according to his code is just part of the day's work), it appeals to one man as being so outstanding an occurrence that he is moved to send a gift of money and a letter of praise?

Maybe you and I, gentle reader, were among the stand-off or stand-pat government employees Mr. Anonymous encountered before he met Supervisor Shelley. But even though we plead "not guilty" it might benefit all of us to brush up a bit on our public relations while 1935 is still young.

POTTER ENDORSES SHELTERBELT PROJECT

The following excerpt from a personal Christmas letter from Albert F. Potter, formerly Associate Forester of the Forest Service, to John H. Hatton endorses unqualifiedly by the Shelterbelt Project. Mr. Potter writes from 695 South Cotalina Street, Los Angeles:

"I wish you could see some of the very practical shelterbelt work which has been done here in Orange County. Most every one of the orange groves is protected by a strip of eucalyptus, poplar, cedar or some suitable kind of trees, and it is a proven fact that these shelter belts conserve the moisture and promote the growth of the fruit bearing trees.

"I notice that there is a lot of criticism by professional foresters, many of whom predict that the project will be a failure. To my mind it is one of the greatest opportunities Foresters have ever had and there ought to be no such thing as failure in it. I am reminded of the way in which the late Secretary James Wilson used to scold us for talking about forestry without practicing it. He thought we ought to have more tree-planters and make that a leading part of the work".

GRAZING SURVEY TRAINING AND EXPERIENCE

By R. A. Coster, Beaverhead

The time when we made more or less accurate guesses as to the carrying capacity of our ranges is no more. The method used by the oldtime cowman and ranger of ocularly estimating the forage possibilities of a range, and which generally resulted in overstocking has, during the past ten years, gradually given way to the more-and-more accurate and scientific grazing survey.

Each year more new men have gone into the field, received their training and have become uniformly proficient in the art of determining carrying capacities with accuracy. Individual interpretation resulting from hurried or casual observation no longer determines the volume of our range resource. Grazing survey training assures a uniform understanding of forage density, composition, type and palatability to the extent that all crew members are able to make their estimates alike on any part of the range. With this attainment of uniformity assured, it logically follows that within a comparatively short time, there will exist a Region-wide unanimity of conception and expression of the terms and methods employed in the accomplishment of the work. This will in turn be reflected in the application of the management plan in the field and gradually the stockmen will be convinced of the worth of the work and the soundness of the resultant management plans.--From an article in R-1 Bulletin.

YE EDITOR DISCOVERS

Creation of 20 new National Forest purchase units, additions to 18 of the existing units, and purchase of nearly half a million acres of forest lands were approved by the National Forest Reservation Commission at its meeting on January 21. The new purchase units to be established include five in Ohio, four in Iowa, three in Indiana, four in Alabama, two in Missouri, and one each in Michigan and Virginia. Additions to the already established units include two adjacent to the Hiawatha National Forest in Michigan, three to other National Forests in that State, five in Missouri, three in Minnesota, two in Illinois, and one each in Alabama, Arkansas, and Mississippi. Aggregate gross area of all the 39 units and additions is nearly 11 million acres. Of this amount it is expected that close to 9 million acres will eventually be purchasable.

Of the lands approved for purchase, 151,667 acres were in the Southern Pine region, 144,208 in the Lake States, 64,774 in the Ozark and Central Mississippi region, 86,860 acres in the Appalachian region, and 9,952 acres in New England. Altogether 457,461 acres at a total cost of \$1,614,147 were approved in nineteen States.

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The chief concern for the moment of those handling the Fire Prevention Year Campaign is the organization of a National Committee.

Developments so far are as follows: A number of posters, leaflets, etc., have been sent to the printer; school programs, news clip sheets, and forest facts are undergoing final revision; assembling of material for a new motion picture on fire has been started; the ground work for radio and press releases is being laid; and a pamphlet on organization and conduct of the campaign for field use is being prepared.

In accordance with the expressed wishes of several Regions, there will be no push-off date, but each Region and each State will plan and conduct its own campaign during the fire season. The job is nothing more than an intensified effort to reach the man in and near the woods during the fire season with an educational and law enforcement campaign aimed at materially reducing the number of man-caused fires. Suggestions, ideas, posters, leaflets, write-ups, etc., have been solicited and still are being solicited from the field. A few Regions have already sent in material for printing. In so far as funds and time permit, the requests will be met.

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Moving of the Washington Office of the Forest Service to the new extensible building of the Department of Agriculture is expected to be under way within the next week. The space allotted is in the front part of Wing 2 of the South Building, located immediately south of the main administration building. The Forester's Office and the Divisions of Lands, Finance and Accounts, Forest Management, Range Management, and Operation will be moved in their entirety. Of the Divisions of Research, Public Relations, and Engineering, the following will move: Assistant Forester Clapp and all Section Chiefs of his Division with their immediate clerical forces; the Section of Information; and Chief Engineer Norcross and his secretary. The rest of these Divisions will remain in the Atlantic Building.

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After two weeks of violent discussion, in a room blue with smoke and only one-third large enough to hold the group, the Regional Foresters' meeting of 1935 has come to an end. Most of the Regional Foresters have departed for their various headquarters and the rest will probably have left Washington by the time this issue of the Bulletin is released.

While here many questions confronted the group. They took up the grazing situation where they had left off in Ogden, developed a policy and procedure program which is being placed before the Secretary, considered the possible procedure under an enlarged ECW program, discussed reorganization, appointments, finances, and acquisition; in short, they discussed most of the activities in which the Forest Service is engaged.

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The following is taken from a recent personal letter from a forester in Sopron, Hungary:

"The reports of your shelterbelts are most interesting. For our great plains we also have similar plans already partially realized. These are different from yours in that we do not want to lay out wide ones, but we want to plant trees on the great plain everywhere where the percentage of woodlands is small with small patches of forest stands. In most cases these will be shelterbelts or at least rows of trees, partly to break the force of the wind which is always an important factor in desiccation, to reduce evaporation, to increase the humidity of the air, to increase soil moisture, to check sands from drifting, and to prevent dust storms. Of course the trees would also help to supply us with wood which we need badly."

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In view of the impending public works and other programs and the possibilities that all emergency employees will have to acquire Civil Service standing of one kind or another, a series of examinations will probably be held this spring. Regardless of how many and what kinds of examinations will be given, it is known that those for Junior Range Examiner and Junior Forester will be included. There is a growing demand for Junior Range Examiners not only in the Department of Agriculture but also in the Department of the Interior. The latter demand is a direct outcome of the development of grazing districts under the Taylor Bill. A number of other examinations, such as that of Conservationist, will probably be given because the latter register is now badly depleted. The registers for certain grades and for certain options have virtually been exhausted.

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Another best seller. Stimulated by advertising emanating from the White House, the Department of Agriculture, the Forest Service, and a host of other agencies, the public is clamoring for information on shelterbelts. All of which is making necessary the reprinting of "The Windbreak as a Farm Asset," Farmers Bulletin No. 1405. In the past four and one-half fiscal years, 47,030 copies of this little paper have been distributed.

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Lee P. Brown of Region 6 has been designated to take charge of the Fire Prevention Year Campaign, succeeding Paul G. Redington, who has been transferred to the Shoshone National Forest as Supervisor.

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Dr. R. MacLagan Gorrie of the British Forest Service with headquarters at Lahore, India, recently spent four months on a Leverhulme Grant studying erosion and grazing in relation to forestry and watershed protection in the United States. He visited nine of our Forest and Range Experiment Stations and the Forest Products Laboratory, as well as the field stations of other Bureaus of the Department, and of the Soil Erosion Service. He had several reels of movies of the Forest Research Institute work at Dehra Dun, and of the general forestry work in India, which he exhibited several times in this country. He also attended the Christmas meetings of the American Association for the Advancement of Science in Pittsburgh and delivered a paper covering the forest work in India before a joint session of the Ecological Society and the Society of American Foresters.

REDINGTON TRANSFERS TO SHOSHONE

The Forester has approved an assignment whereby Paul C. Redington will take charge, as Forest Supervisor, of the Shoshone National Forest, Wyoming. He succeeds Forest Supervisor Langworthy, who retired on February 1.

Redington first visited the Shoshone Forest in 1904, and served as an Inspector under E. A. Sherman in 1907 and 1908, in the States of Wyoming, Montana, and Idaho. He knows the Shoshone country well and many of the people there. In the past few years, during his work in the Biological Survey, he spent some time in Cody and vicinity.

For the past several months, Redington has been working on special assignments in the Washington Office of PR.

MORE AUTHORS IN OUR MIDST!

Not many Forest Service employees write books in their leisure moments, if any, but Donald Bruce and F. X. Schumacher have done so. Between them, they have produced a new book on "Forest Mensuration" that gives the practitioner and student a new insight on how Men-

suration can be used in the forester's daily activities. Advance copies show that the book is one that can be used by every forester confronted with problems of timber cruising, estimates, counting sheep or deer on the range, etc. The book is part of the University of California series of forestry texts and is published by the McGraw-Hill Company, New York.

JOHN KIRKPATRICK RETIRES

John Kirkpatrick, District Ranger of the Randle District of the Columbia National Forest, retired on December 31, 1934.

Kirkpatrick or "Kirk," as he is known to hundreds of residents in his district, has become as well-known a landmark of the Randle district as the trees and the lakes it contains. He came to the Forest when it was a wilderness, when the only trails were the rivers and streams, when the woods were as untracked as the Sahara. It was in 1908 that the Forest Service assigned him as guardian to 250,000 acres of tall timber and unmapped mountains, a mere handful.

He himself comprised his whole staff. He had no trails, no roads, no telephone lines, no lookouts, not even a pulaski tool or a map. One day a hunter near Mount Adams saw the smoke of a great fire squatting over the Forest and hastened back to Stevenson, Wash., to write the lone Ranger a letter informing him of the blaze. Six weeks later John Kirkpatrick received the letter, and with two assistants set out for the base of Mount Adams. From that point northward lay terra incognita. No one had traveled there. No one knew what lay beyond. It took Kirkpatrick and his crew of two men five days to travel to the fire from Twin buttes, a distance now covered by the new upper Cispus road in an hour or two. The fire was still burning and would be burning yet for all the fight they could put up.

In 1909 Kirk got an assistant. Then the big fire of 1910 burned over 100,000 acres of timber and woke the Forest Service to the importance of the district now half denuded of its forest. At the time of his retirement Kirk was employing a peak crew of about 250 men, had 20 lookouts and fire guards and hundreds of miles of roads, trails and telephone line to supervise and keep in order. A fire now is often reported six minutes after it begins, where once six weeks was required.

With a heart as big as his head, Kirk is a legend and a byword in his district for his friendliness and generosity. A typical tale told of him is that of his attempt to be stern in enforcing the fire laws. Catching an offending camper who had left his fire burning, Kirk took him to court where the judge fined the culprit \$12. The fellow had a family and no money, a plight which so touched generous John Kirkpatrick's heart that he himself paid the fine and helped the offender out of town.

When the Forester and Director Fechner visited Kirk's station last summer, they posed for a picture with him. It was this picture which his comrades presented to Kirk as a parting gift in celebration of his retirement. - From Region 6.



SERVICE BULLETIN

CONTENTS CONFIDENTIAL

WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES. IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT *** THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY *** TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER

Theodore Roosevelt

Vol. XIX No. 4

Washington, D.C.

February 18, 1935

PRESIDENT ROOSEVELT ACCEPTS THE SCHLICH FORESTRY MEDAL

"It is with a keen sense of appreciation that I accept the award of the Schlich Forestry Medal. I, of course, appreciate your generous recognition of my efforts on behalf of forestry in which I have always been greatly interested; but what I appreciate most of all is that the recognition comes from a profession which from its very inception has looked upon the forests as an instrument for the social and economic betterment of our people - a profession which has always been imbued with an intense spirit of public service.

"I consider the social point of view of foresters as most essential to the success of their profession. Forests require many years to mature; consequently the long point of view is necessary if the forests are to be maintained for the good of our country. He who would hold this long point of view must realize the need of subordinating immediate profits for the sake of the future public welfare.

"A forest is not solely so many thousand board feet of lumber to be logged when market conditions make it profitable. It is an integral part of our natural land covering, and the most potent factor in maintaining nature's delicate balance in the organic and inorganic worlds. In his struggle for selfish gain, man has often heedlessly tipped the scales so that nature's balance has been destroyed, and the public welfare has usually been on the short-weighted side. Such public necessities, therefore, must not be destroyed because there is profit for someone in their destruction. The preservation of the forests must be lifted above mere dollars and cents considerations.

"For this reason, I consider the conservation provision of the Code adopted by the lumber industry as a great step toward recognition of the social value of the forests. The essence of this provision should be retained no matter what other changes may be in the Code.

"The handling of our forests as a continuous, renewable resource means permanent employment and stability to our country life. The forests are also needed for mitigating extreme climatic fluctuations, for holding the soil on the slopes, retaining the moisture in the ground, and controlling the equable flow of water in our streams. The forests are the 'lungs' of our land, purifying the air and giving fresh strength to our people. Truly, they make the country more livable.

"There is a new awakening to the importance of the forests to the country and if you foresters remain true to your ideals, the country may confidently trust its most precious heritage to your safe keeping."

The presentation of the Schlich Memorial Medal was made at the White House on January 29 by the Society of American Foresters, represented by H. H. Chapman, President, Earle H. Clapp, Vice President, and Franklin Reed, Executive Secretary.

This is the first time the famous award has ever been given in the United States. It was established in order to perpetuate the memory of the late internationally-known forester, Sir William Schlich, at one time inspector general of forests to the government of India. The award has previously been made to Australia, New Zealand, and India. The Roosevelt medal was especially designed by the Yale School of Fine Arts and follows somewhat the design used for the Schlich medal awarded previously in the other English-speaking countries which contributed to the original memorial fund.

ON MICE AND MEN

By E. N. Munns, Washington

Nature's method of getting a new forest is through direct seeding. Nature's method is a wasteful one, because she depends so largely upon chance to make sure that seeds find conditions satisfactory for germination or early growth.

Many years ago, foresters in this country collected and sowed seed almost by the ton. Little, if any, serious attempt was made to improve on Nature's method except that in some places seeds were dibbled in the soil or were placed in seed spots. Under the methods used, rodents were given credit for most of the losses. Occasionally someone said it was drought. Probably both played their part, but the early reports say little or nothing as to whether the seed was sound before being sown, or whether the seed-spotted seed was sown to a proper depth, etc. Because of these failures, American foresters more or less are all washed up on direct seeding.

One argument brought up to discount seeding is that planting is more successful and cheaper. Under some circumstances and in some places this may be so, but when one gets down to cases and looks at actual results he is inclined to think that cheap planting is apt to be expensive when measured in terms of really successful stands. Besides, there are a lot of Service plantings that have not been so hot. We don't advertise these very much, for such areas are really not much to our credit. But we find again that the inspecting foresters report that drought and rodents cause the trouble, with insects mentioned in recent years among the favorite alibis.

If we knew actually how many acres we have planted with sufficient success as to form a decent stand--400 trees per acre at 5 years of age does not form a decent stand from a silvicultural point of view, though some foresters may think it does--and if we knew how much such areas have actually cost us, perhaps we would revise our ideas of how well the modern forester can perform what should be one of his outstanding accomplishments.

Planting requires nurseries and planting stock. We have many acres that should be restocked, many many more than can be planted within the next ten years at the present rate of progress even with the labor now available and in sight.

On the National Forests we have many thousand acres of relatively recent burns. What are we going to do with them? Sit idly by and wait upon Nature to try her hand? Attempt to plant up the whole area? Neither of these seems adequate in the face of a big need and a big time-consuming job. As one way out, should we not attempt to emulate Nature's natural method but improve on Nature by giving her aid and comfort in every way possible?

We have tractors capable of hauling logs out of places that formerly were reached only by sky-lines. We have tanks capable of negotiating hills and overriding obstacles. We have plows that tear through brush and slashings to form fire lines. Is all this equipment to be used on roads and fire-lines alone? Why not put some of it to work on ground preparation as an aid to seeding? Is disc or other harrowing such an impossibility to the modern mechanically minded forester? Conceivably we might have some success and possibly we might

obtain better restocking than we have gotten so far. Certainly we could cover a greater area.

Where is the vaunted imagination of those foresters who sit among the ashes bemoaning their fire problem? Have they no remedy for fire control except more fire? Don't they even believe that a forest can be grown that will aid in fire protection by its fire-reducing climate? Have they so much smoke in their eyes that they have overlooked the fact that reforestation is part of the forester's job? Have they given direct seeding a real break? If so, they are keeping it quiet.

(Author's note to the Editor: This will be a dud because the comeback will be, "We can't because of the mice." Can you imagine a flock of foresters licked by mice? Truly, foresters are in a bad way?)

ANNUAL MEETING, SOCIETY OF AMERICAN FORESTERS

By W. A. Dayton, Washington

The 34th annual meeting of the Society of American Foresters was held at the Shoreham Hotel, Washington, D. C., January 28 to 30, 1935. The attendance (388 were registered) was the largest in the history of the Society, with the possible exception of the 1930 meeting. Members were present from practically every State in the Union, as well as from Canada and Scotland.

The keynote of the convention, echoing and re-echoing in the addresses and discussions, dominating all minor themes of the verbal orchestration, was the social opportunity and responsibility of the forestry profession and of foresters individually and collectively.

The Monday morning session, January 28th, ex-President Granger presiding, had two particularly high lights: President Chapman's address on "The Responsibilities of the Profession of Forestry in the Present Situation," and an address by Chief Forester Silcox, "Foresters Must Choose." President Chapman outlined the outstanding accomplishments of the year in forestry, stressing such novelties as the C.C.C., the Lumber Code, the Shelterbelt, and T.V.A., and strove valiantly to steer the stout oaken hull of the Good Ship Forestry in a middle course between the Scylla of extreme conservatism and the Charybdis of ultra-radicalism. Major Silcox' challenge largely revolved around this thesis (quoting his own language): "Great actions are not taken in the already conquered realm of long accepted truths, but on the thrilling frontier where men battle for yet disputed principles. It is among such principles, still bitterly assailed by many, that the real adventure for foresters now lies. I urge these few basic principles as the creed of the new frontier to be conquered by our profession." These principles, the Forester further elucidated, constitute a six-point program, viz, (1) forest lands must be kept continuously productive; (2) forest devastation must stop; (3) public control over the use of private land, to insure sustained yield, is essential; (4) public ownership of forest land, both Federal and State, should be greatly augmented; (5) logging and, if necessary milling, of their own timber should be undertaken by Federal and State governments, where desirable for (a) maintenance of existing communities, (b) creation of permanent employment, or (c) the production of cheap material to supply local needs; (6) long-term credits by government agencies to forest industries should be predicated on sustained yield insured by adequate government supervision.

Monday afternoon, January 28th, was devoted to a discussion of Article X of the Lumber Code, with Prof. Emanuel Fritz in the chair. Reports and addresses were given by Ward Shepard, A. E. Wackerman, D. T. Mason, and Capt. John B. Woods. As all the speakers

at this session, except Ward Shepard, are closely affiliated with the lumber industry it was natural that greater stress was given to private than to public agencies in connection with the application of the Code to present conditions.

Monday evening, January 28th, was devoted to a session of the Division of Forest Education, with Dean S. T. Dana in the chair. Dr. Dana was elected chairman of the division, Prof. Henry Schmitz vice-chairman, and Prof. C. H. Guise secretary-treasurer. These three men, with State Forester F. W. Besley and Prof. R. C. Hawley, constitute the new Executive Committee of the Division. There were discussions led by President Chapman, on the criteria for the accrediting of forest schools by the Society, and on deficiencies in forest education as viewed by the forester and his employer, led by Prof. Guise. Prof. Guise gave a very astute and stimulating resume of the educational, including cultural and sociological, deficiencies frequently encountered in foresters. The 10th Engineers (Forestry), A.E.F., "re-united" at a dinner during the evening.

Tuesday morning, January 29th, with President Chapman in the chair, was given over to a discussion of Society affairs. This writer is frankly grateful that the screen of concealment can, and should be, with propriety, pulled down at this juncture to hide the Society's private life, chaste but possibly at times indiscreet, from the unhallowed gaze of a tabloid-loving public!

The afternoon session of January 29th was given over to a series of seven committee reports, by their respective chairmen, viz, (1) History of United States Forestry, by former president P. G. Redington; (2) Recommendations for Administration of the C.C.C., by Prof. Paul A. Herbert; (3) Subsistence Homesteads, by Axel Oxholm; (4) Erosion, by Dr. Walter C. Lowdermilk; (5) Public Forests, by Prof. Ralph Hosmer; (6) Forests and Their Relation to Game Management, by Aldo Leopold; and (7) Fire Control, by G. H. Collingwood.

The evening session, Tuesday, January 29th, was the Society Dinner, attended (appropriately enough) by 400 persons at two bucks a throw (rotten, bourgeois capitalists; down with 'em!), and presided over by the genial genius of Prof. S. N. Spring, temporarily disguised behind a facial ambush of Red whiskers. It is rumored that Mr. A. C. Ringland was a notorious under-cover ringleader in the proceedings. The comrades, or tovarishes, met in dear old Moscow (Idaho) to decide on whom to pin the Slick Medal. Sentiment, at first, seemed to favor Comrade Raphael Zonovitch, with some outlying precincts voting for Comrades Ed. Munnsky and Ed. Richardsonoff but, under the emotional sway inspired by the ebullient oratory of Comrade Kotok, the immortal Paul Bunyan was unanimously awarded the coveted prize. Foresters' "pals," keen-edged and with appropriately colored sheaths, were awarded to previous editors of the Journal, Messrs. Zon, Dana, and Fritz. A tuneful duet on the shelter-belt was "rended" by Messrs. Kotok and Shirley Allen.

Wednesday morning, January 30th, State Forester H. L. Baker occupying the chair, was passed in a discussion of State Forestry led by Messrs. R. M. Ross, G. M. Conzet, Homer A. Smith, and J. S. Illick. Federal aid in the acquisition of State Forests was emphasized.

The closing meeting of the Society was held Wednesday afternoon, January 30th, with Ovid M. Butler as chairman, the subject for discussion being "Forest Fire Control in the Coastal Plains Section of the South." This very interesting discussion was chiefly contained in seven papers prepared, respectively, by A. B. Hastings, E. L. Demmon, W. G. Wahlenberg, S. W. Greene, I. F. Eldredge, Director H. L. Stoddard (of the Cooperative Quail Study Association), and Chacey Kuehn (of the Georgia Forest Products Co.). Perhaps the one word "control" best serves to show the main emphasis and keynote of this final session.

"A ROSE BY ANY OTHER NAME"

(Uniform or Field Clothes)

By L. S. Murphy, Washington

While the wearing of some sort of standardized clothing in the "wide open spaces" (of not over 5,000 population) is no longer debatable, the exact style of such clothing to be worn still seems an open question.

Guthrie obviously opens the debate (Service Bulletin, Jan. 7) and, while he does not in so many words invite comment, such does not seem to be forbidden but on the contrary seems called for.

At various times past there have been vigorous objections to the doo-dad trimmings which he has sought and still seeks to add to the uniform, namely, collar devices and service stripes. These are decorations appropriate, perhaps, to a "uniform" but not to "field clothes."

The two collar devices, as a substitute for the badge, seem like a piece of useless expense and trouble. The badge is furnished by the government. The devices would have to be paid for by the field men. Again, when one discards his coat, he has to change the two devices to the collar of the shirt instead of changing the one badge. Thus, there is a double chance of loss in the transfer. Furthermore, the proposed means by which these devices are to be attached, the screw back, make the change more troublesome and less secure than the simple pin.

Concerning the service stripes, these are distinctly the earmarks of a "uniform" and not "field clothes." In order to be properly and neatly clothed in the field it is no more necessary that we display how many years we have worked for the Forest Service than to show where or when we were born, or whether we are single, married, or divorced. The public isn't interested, and we can not serve it any more effectively with service stripes than without them. This service strip business is a military quirk exclusively and should be ruthlessly suppressed. The next logical step, if that be tolerated, would be to have other stripes or devices to denote rank, such as ranger, supervisor, researcher, associate-grade, etc.

Guthrie says he doesn't like the present uniform coat. I'm glad to be able to agree with him that far. But I would go further than he in suppressing it. A real honest-to-goodness Norfolk jacket would not be so bad. We had that once. But, on account of the expense occasioned, particularly by the pleats, we adopted the present half-breed Norfolk. He now proposes to perpetuate the worst features of that, namely, the yoke and the belted waist. The narrow-chested appearance to which he objects is in part at least due to the yoke and to the widened hip effect produced by the belted waist. It's just too ladylike for words!

Concerning the inside pleats which he proposes to substitute, the full Norfolk jacket was formerly given up, as already noted, because of the added cost of the pleats. Yet Guthrie's inside instead of outside pleats amount to the same thing. If anyone doubts that these add materially to the cost, let him price men's sport coats with and without the so-called "by-swing shoulders." Again these pleats being on the inside add to the cumbersomeness of the coat as well as to its weight in added material.

The theory of the shoulder pleats is, of course, to give added freedom when working with the coat on and buttoned up. But any man who would regularly attempt any such thing ought to be sure to provide himself with a generous supply of talcum powder. On the other hand, if no one is really expected to work in a buttoned-up coat, why go to the trouble and expense of equipping it with these otherwise useless trappings.

As for the big patch pockets and the back pleat, they are beautiful in theory but of doubtful worth in practice, while again adding unnecessary expense. If there is one thing that makes any man's coat look wrinkled and untidy it is to see the pockets crammed full of notebook and other miscellaneous junk. I would suggest the addition of a Sam Brown belt equipped with a dittybag for the forest officer to carry such material in, because if he should really use the generous pockets Guthrie would provide together with the expansion gusset in the back, the breadth below his belted waistline would make Mae West in "The Belle of the Nineties" go "away back and sit down." One of our bright young women suggested that the only thing the outfit lacked was a foundation garment. More expense!

The Forester in his order assured us sensible, comfortable clothes. What we need for a standardized style of coat, if we must have one, is a moderately priced coat that can be worn and will look as well unbuttoned as buttoned; a simple dignified covering for the shirt which can be worn in a hotel lobby, dining room, or other places where men are supposed to be coated. Such a coat would be along the line of a conservatively cut sack coat such as that adopted for naval officers since the war. We can satisfy the President's desire for neatness and uniformity of appearance without trying to keep up with the Joneses in the Park Service, the various State conservation organizations, and the like. We can be dignified and in addition distinctive in simplicity.

YE EDITOR DISCOVERS

Efforts are being made to secure authority from the Department and the Civil Service Commission to recruit men and women from outside the Service as needed to augment the force to handle the pending load of ECW and emergency relief work. The Washington Office has been reluctant heretofore to undertake the training of inexperienced persons on Washington Office jobs. The load of work facing regional organizations, however, makes it increasingly inappropriate to requisition field personnel to help out in Washington. Training details of field personnel to Washington are still encouraged, and Regional Foresters have been invited to release men for temporary assignments when the advantage of the training received is sufficient to offset the disadvantage of losing trained help locally.

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Frequent inquiries have been received concerning the source of the theme song used with "Uncle Sam's Forest Rangers" radio program. This is a song written expressly for the Ranger program by Walter Blaufus, Director of the Homesteaders' orchestra. Recently he has written a new song dedicated to "Uncle Sam's Forest Rangers" called "Trail's End". It is an Indian ballad and is now played as the closing theme, whereas the earlier song is still used as an opening theme song. "Trail's End" is a composition of high musical merit and has appropriate words written for it by Frank E. Mullen, former Director of Agriculture for the National Broadcasting Company. The song is to be published, and it has been played recently by several popular orchestras over NBC networks.

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The advances made in fire control have not been duplicated by advances in insect control, it would seem. According to a recent R-6 news release, western pine beetles destroy each year in the pine regions of Oregon and Washington eight times as much timber as do forest fires. This statement is based on records for the five years ending with 1933. In the same area, beetles and windfall together destroyed annually over one billion board feet, which is considerably more pine timber than is cut by the sawmills.

In 1931 beetles killed almost a billion feet of ponderosa pine timber in Oregon and over one hundred million feet in Washington; in 1932, one and one half billion feet in Oregon, and over a quarter billion feet in Washington. Owing to the intense cold of the winter of 1932-33 insect losses fell off substantially for 1933. For the three years ending with 1933 the beetle kill in ponderosa pine has totaled nearly three billion board feet in Oregon which is an annual average of almost a billion feet or a loss of roughly 1.2 percent per annum against the total stand of ponderosa pine timber.

In Washington the loss has totaled over a half billion feet for three years, an average loss of 1.2 percent per year. The sawmill cut of ponderosa pine in 1933 was 681,000,-000 feet for Oregon and 233,000,000 feet for Washington.

The research program of the Portland office of the Bureau of Entomology shows three peaks of bark beetle damage in 13 years in Oregon and indicates that drought periods affecting the vitality and growth rate of trees are favorable for insect epidemics. It has also been determined that cold winters are effective in checking the spread of the insects.

The main beetle damage is done in counties of Oregon and Washington where stands of ponderosa pine predominate. Klamath, Lake, Deschutes, Crook, Grant, Jefferson and Wasco Counties in Oregon, and Yakima, Okanogan and Ferry Counties in Washington have been chief sufferers. Portions of Klamath County have been hit by three successive outbreaks of the bark beetle. The first period from 1917-1923 brought heavy losses on all areas and first called attention to the seriousness of the beetle problem. Roughly, 8 percent of the pine timber stand was killed during this period. The second epidemic lasted during the period of 6 years, 1924-1929, and killed an additional 10 percent of the stand. The third wave of bark beetles struck during the four year period from 1930-1933, taking an additional 7 percent of the timber. These successive outbreaks have so depleted this particular portion of the Klamath district that in many areas logging has been rendered unprofitable.

Extensive beetle control work has been conducted by private owners, the State Foresters, the Forest Service, the National Park Service, and the Indian Service with encouraging results. Notably, in Crook County, northeast of Bend, Oregon, control work in 1933 and 1934, has proved successful.

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From material submitted by the Regions, George Gowen of the Division of Operation has compiled a bulletin on fire prevention in and around summer homes and recreation camps. The bulletin will fit in nicely with the 1935 Fire Prevention Year Campaign and will be published by the National Fire Protection Association.

RADIO ONLY MEANS OF COMMUNICATION ON OLYMPIC PENINSULA

By L. D. Blodgett, Olympic

During the floods and storms of the past week, the Olympic radio network has been the only means of communication to those portions of the area between Port Angeles and Grays Harbor. All roads in this section are still (Jan. 24) blocked with slides and washed out bridges which has prevented repairing telephone lines and stopped all movement of mail.

The State Highway Departments have availed themselves of our facilities to keep posted on road and weather conditions and damage to highways.

The C.C.C. Camps on the Hoh and Clearwater have been completely isolated since the 21st. One of our small type PF sets was installed at the Army Headquarters at Fort Lewis, which has enabled them to maintain direct contact with all camps 24 hours a day since that time. Relief work and movements of medical and mess supplies are being directed by the Commanding General over our radio network. Quite a number of very urgent personal messages have

been handled for persons located in the stricken area. These contacts have been maintained despite the fact that interference from static has been worse than at any time since the radios were installed on the Olympic.

It would be difficult to estimate the value of our radio facilities in dollars at a time like this.

THE CHALLENGE OF THE SHELTERBELT

(From a statement by Professor Raymond J. Pool, Department of Botany,
University of Nebraska)

The federal shelterbelt project is another great challenge to the forester and to science in general. We do not know that the project will be successful in its every detail. Pasteur did not know that his experiments would be successful. We know that many trees that were planted in the shelterbelt territory years ago have failed, but is Science going to be defeated by such testimony? The little French savant was not defeated by adverse criticism and ridicule, and as a result any individual in any civilized community may receive the Pasteur treatment today if necessary. Men do not know that the trees planted in the new shelterbelt project will succeed. They do know that many of the trees that have died in that region were poorly selected, poorly planted, and were practically forgotten after they had been planted. The forces of nature simply engulfed such neglected plantations because the trees had not been given a chance.

It is a delight to sense the critical attitude and the real scientific spirit that dominate the men who favor the shelterbelt project. Foresters are going at this job in strict accordance with the dictates of modern science. They know that mistakes will be made, that certain discouragements are bound to come. They refuse to budge in the face of the conflicting testimony of associates who may be lacking in a clear conception of some of the essential attributes of the scientific mood and method. After all, man has not yet tried to do in the shelterbelt regions just what foresters are proposing to attempt at this time. Therefore no one can predict scientifically, that the results of the application of scientific forestry in this undertaking will be the same as those which followed the slipshod methods of the plainsman and the pioneer.

The forester has once more accepted the challenge of Mother Nature. He is deliberately going about it to command the best technical skill of his profession, mingled with a glowing sense of his responsibility to posterity, to undertake this great job. Let foresters everywhere, scientists one and all, and every citizen throughout our great land judge this project in a fair spirit of open-mindedness. Open-mindedness is one of the first essentials of the scientific attitude. This, in reality, is the greatest challenge of the shelterbelt project.

COLONEL GREELEY INJURED

Word has reached Washington that Colonel Greeley was struck by a CCC truck just out of Olympia, Washington, on February 1 and severely injured. According to a telegraphic report received from Regional Forester Buck, Colonel Greeley had parked his car, as a result of a flat tire, and was walking up and down the road behind the car awaiting garage service when a recreation truck from Camp Matlock, loaded with men, passed. The driver of the truck did not see Colonel Greeley and, in passing, the rear end of the truck struck him, throwing him headlong into a rocky bank.

Colonel Greeley, at the time this is being written (Feb. 7) is at Saint Peters Hospital, Olympia, suffering from lineal skull fracture, an injured eye, and severe facial lacerations. His condition is still serious but considerably improved.



SERVICE BULLETIN

CONTENTS CONFIDENTIAL

WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES. IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT *** THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY *** TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES. WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER

Theodore Roosevelt

Vol. XIX No. 5

Washington, D.C.

March 4, 1935

THE ALLEGHENY GAME COUNT

By Otto G. Koenig, Allegheny

In considering game matters on a Forest two questions arise, (1) what species of wild-life exist and (2) in what numbers? The answer to the first question is relatively simple, largely a matter of close observation; but the second is not so easily answered.

Last December, in obtaining the census for the wildlife report, the Allegheny tried out a system of counting sample areas. Units were selected that represented what might be called average conditions for the general vicinity and were so placed as to include all portions of the Forest, and all cover types except open fields. The only limiting factor in the selection of sample areas was that they must lend themselves physically to the counting of driven game.

The driving of the game was done by CCC enrollees, who were strung out along a clearly defined starting line at intervisible intervals and advanced simultaneously in the direction of the drive after all were placed. Some game came back through the line of drivers and was tallied by section leaders, each one of whom tallied for his squad and made sure that no animal was tallied more than once, even when seen by several members of his squad.

The drive moved in the direction of a continuous clearing, such as a road or pipe line, along which counters were stationed to count animals that went out ahead of the drive. Other counters were so located as to be able to count any animals that went out at the side.

The results were astonishing, particularly in the densely populated sections, where as many as 59 deer in one bunch crossed a road ahead of the drivers, and where there were as many as 90 deer per 1,000 acres. Had the result of the drive been applied directly to the gross area of the Forest the deer population would have exceeded 58,000, or about one fifth of all the deer in Pennsylvania. This would not be true, and so the number per thousand acres of cover type was determined and the figures for the various cover types were applied to the gross area in accordance with the area of those cover types on the Forest. This resulted in some astonishingly large figures, but they were within reason, and are as follows:

SERVICE BULLETIN

<u>Species</u>	<u>Population</u>	
	<u>Total</u>	<u>Per M acres</u>
White tailed deer	26,758	37
Black bear	247	.3
Rabbits	127,644	177
Squirrels	137,254	191
Grouse	28,329	39
Fox	417	.6
Skunk	10,200	14
Muskrat	25,400	35
Beaver	1,100	1.5

and smaller numbers of raccoon, opossum, quail, pheasant, wildcat, mink and weasel, to make a total population of 370,700 animals and birds, with a density of 513 per 1,000 acres.

During the game census deer were tallied as bucks, does, and unidentified, in an effort to determine the ratio of sexes, which was found to be 1 buck to 6 does.

Some inquiries have been received as to the possibility that the method used in determining the game population would tend to drive the deer out of the country. This is extremely unlikely, for it is a well-known fact that deer will not leave the home range unless actually forced to, in which case they will return at the first favorable opportunity. In numerous instances deer filtered back through the line of beaters rather than run out ahead of them.

All told, we think the system of counting sample areas a good one for determining game population, if applied with care. Some of its advantages and disadvantages may be listed as follows:

1. It is not adaptable to areas that are not physically cut up into counting units. In other words, there must be a sufficient number of units from which animals can not escape without being seen.

2. A large number of men are needed.

3. There is a tendency to count areas that are overstocked rather than representative. This can be overcome by selecting areas more or less at random, and by applying the figures on a cover type basis.

4. An accurate cover type map must be available so that areas of each cover type may be determined.

5. It must be possible to determine accurately the areas of the units driven.

6. Counting units must be large enough so the beaters and counters can be placed without driving the game off prematurely. Needless to say, the men must be placed quietly.

7. Small game and birds can hide, and often do.

The annual sale of hunting licenses exceeds 550,000 in Pennsylvania. The State is densely populated, heavily industrialized, and covered with a maze of highways and minor roads. During the big game season last year probably 25,000 individuals hunted on this Forest and killed about 2400 deer. Approximately 111,000 other animals and birds were killed during the small game season, and yet on January 1 there were 513 animals and birds left per 1,000 acres; so it seems that wildlife can take a lot of punishment and still exist, if given half a chance.

THE PRODUCTIVITY OF KENTUCKY'S BLUEGRASS: 1784 and 1931

By L. F. Kellogg Central States For. Expt. Sta.

About the first authentic account of the virgin Bluegrass of Kentucky came from the pen of John Filson, Kentucky's first historian. This man, born in Pennsylvania, furthermore, has left us the first map of "Kentucke" which he carefully checked over with Daniel Boone, Levi Todd, and James Harrod. There is much to command one's interest in this simple, concise book and map which Filson published in Wilmington, Delaware, in 1784.

In this day of introspection and examination of social ills, we hear much of marginal lands; and efforts are being made to secure planned use of land. What changes have taken place in the Bluegrass during the 150 years since Filson conferred with Boone, Todd, and Harrod, and the settlers continually were alert to the signal of Indian attacks?

Filson tells us that, in 1784, "The soil of Kentucke is of a loose, deep black mold, without sand, in the first rate lands about two or three feet deep, and exceeding luxurious in all its productions. In some places the mold inclines to brown. xxx This country is richest on the higher lands, exceeding the finest low grounds in the settled parts of the continent. When cultivated it produces in common fifty and sixty bushels per acre; and I have heard it affirmed by creditable persons, that above one hundred bushels of good corn were produced from an acre in one season. The first rate land is too rich for wheat till it has been reduced by four or five years cultivation.

"Col. Harrod, a gentleman of veracity in Kentucke, has lately experienced the production of small grain; and affirms that he had thirty five bushels of wheat and fifty bushels of rye per acre.

"I think in common the land will produce about thirty bushels of wheat, and rye, upon a moderate computation, per acre; x x x."

In commenting on this initial record, W. R. Jillson states "Filson's account of the large crop yields of the new central Kentucky upland soils were probably not exaggerations for his time, but they will not hold today. Twenty or twenty-five bushels of wheat, thirty to thirty-five bushels of corn, and eight hundred to one thousand pounds of tobacco are good average upland acre yields at the present time, though of course, superior exceptions occur."

These declines in productivity of Kentucky's famous Bluegrass - the cream of the State, agriculturally speaking - cause one to pause and ponder. No one has to reduce his land today to allow wheat production!

FIELD CLOTHES

By L. H. Douglas, R. 2

At last we're to have a definite style of field clothes. Or am I too optimistic? Are we still to have a few options dictated by rotundity or cavity of someone who can bring enough influence to bear? If we are to have a single style throughout there should be a free, preliminary discussion for the guidance of those who decide. Certainly Major Guthrie's article in the January 7 issue of the Service Bulletin indicates a need for discussion of the final specifications.

With his suggestions as to insignia I can readily agree. Against the style of coat suggested and illustrated, let me register a violent objection. We went through the days, years ago, of bulging bellows pockets. Those who are not old enough in service to have ranted at the style of that day have only to look at some old group pictures and even

now blush with embarrassment. But to make the coat bulge in many other places too, makes bad matters worse.

After all, what is the matter with the present standard style? It is a neat coat on anyone, and, if properly tailored, very comfortable. Put insignia on it to make it distinctive and it will be all one could wish, I think.

The statement that serge is not an outdoor cloth ignores the army uniform. Serge is more dressy than any other cloth we use and, with special clothes for rough field work, should be the only cloth permitted for general use. Let's not have several options in cloth.

I agree heartily with Major Guthrie as to the importance of the hat and tie. Region two in recent years has tended strongly toward the Kingston, or Kingsway (according to Stetson), with a $2\frac{1}{2}$ -inch or $2\frac{3}{4}$ -inch brim, with bound edge, and $5\frac{3}{4}$ -inch crown, the latter with narrow crease from front to back and shallow side indentations; $3/8$ " ribbon band; medium gray color (specify color name). This hat seems to look well above more differently shaped faces than any other style. Its increased use has resulted from a gradual recognition of this. It's distinctive. It's not like the army, nor the Park Service. The old austral shape has too low a crown and too wide a brim.

DESTRUCTIVE MOUNTAIN FLOODS PROVED DUE TO PLANT DETERIORATION ON WATERSHEDS

More destructive floods occurred near Salt Lake City, Utah, in the last dozen years than in all the preceding 20,000 years or more since ancient Lake Bonneville receded, according to recent studies of the Forest Service and the Utah State Agricultural College.

The evidence shows that the flash floods of recent years are a result of deterioration of the vegetation on critical portions of the watersheds by overgrazing and fire, and the resultant loss of the plant litter and the more absorbent top-soil by accelerated erosion.

The western slope of the Wasatch Mountains of northern Utah, where destructive floods occurred in 1923 and 1930, afforded unusual opportunity for geological observations on the history of floods and erosion in these areas. The deltas and terraces left by ancient Lake Bonneville facilitate direct comparison of the erosion and deposition of recent years with those of former times.

The soil and vegetation established on the slopes of the watersheds ages ago and maintained through thousands of years had, until the last few decades, absorbed most of the rainfall, regulated run-off and prevented noticeable erosion. Such natural control has now vanished due to vegetative depletion by overgrazing and fire on critical areas where the relatively bare ground now speeds run-off when torrential rains occur. Accelerated run-off accumulated to form floods which swept the mountain canyons, eroded deep channels, and produced mud flows eclipsing all previous post-Bonneville erosion and deposition.

The investigations show that although a maximum plant cover on western mountain watersheds subject to torrential rainfall may not prevent all floods, the degree of erosion and intensity of run-off are increased as the density of the plant cover decreases.

These studies have served as a basis for developing an important part of the CCC program of restoration of vegetative cover for erosion and flood control.

The findings have been reported in "Floods and Accelerated Erosion in Northern Utah," Miscellaneous Publication No. 196, U. S. Department of Agriculture.

SAP-STAINS IN WOOD CAN NOW BE AVOIDED

Discoloration of unseasoned logs and lumber by sap-staining fungi--the blue stainers particularly--may now be avoided by simple, inexpensive treatments developed by the Division of Forest Pathology in cooperation with southern lumbermen. In recent years consumers have developed a prejudice against wood discolored by sap-stains, a prejudice which has increased costs and marketing difficulties for both manufacturer and lumber dealer. Sap-stains affect the strength of wood only slightly, if at all, but reduce the usefulness of wood where a good natural finish is desired. Moreover, decay is sometimes associated with stain and in its early stages may be masked by it.

Furniture manufacturers and builders are reluctant to use discolored wood in the construction of wood articles, residences and other structures. Foreign buyers particularly--the United States sells to more than 50 countries--have objected to discolored lumber and have claimed and collected damages, or shifted their purchases to less susceptible woods. In the effort to meet consumer demands for unstained lumber, the manufacturers have adopted more rigid grading rules which in turn have made stain control increasingly necessary.

More than 200 chemicals or combinations of chemicals were tested by the Division of Forest Pathology. Two of these treatments--one, a water solution of organic mercury compounds, and the other a mixture of chlorinated phenols at relatively low concentrations--will control sap-stains in either pine or hardwoods. A third treatment--borax in saturated solution--is effective on hardwoods only. These treatments also are of value in preventing some of the early decay which occurs in lumber during seasoning periods at the sawmill.

Development of simple, low-cost sap-stain treatments makes them available to small mill owners who in recent years have produced more than one half the pine lumber of the South. Efforts of the lumber industry in general to raise the reputation and utility value of the products will be greatly aided if the standard of small mill production is improved. Sap-stain treatments low in cost and easy to apply will aid all pine and hardwood manufacturers in improving quality, in lowering costs, and in competing with wood substitutes.

Sap-staining fungi may attack logs and lumber during storage in the woods, at the sawmill, or during shipment. Lumber cut from infected logs is a menace to uninfected lumber close to or in contact with it.

The problem of sap-stain control has become increasingly important as lumbermen have made greater use of second growth timber, in which discoloration is likely to take place more readily than in virgin timber. Sap-stain treatments aid in forest conservation. They enable the manufacturer to avoid reductions in quality of their products. Overcutting of timber stands to supply the high grade demand is therefore not so necessary and the glut of low grade lumber on the market is reduced. - Dept. of Agri. News Release.

NORTHWEST TOWNS "SKI MINDED"

"Telemark" and "Christiania Turn" are becoming familiar terms in the Oregon-Washington vocabulary these days. From Bellingham to Medford, cities and towns are going "ski-minded".

Seattle recreationists migrate weekly to their famous winter sports resport at Snoqualmie Pass on the Snoqualine National Forest. Here the Seattle "Mountaineers" have one of their cabins, and here Seattle holds ski tournaments attracting thousands. Silver Creek, in the White River district, a two hour's run from Seattle on the Naches Pass highway, also boasts its ski run and attracts its hundreds for week-end sports. Tacoma has its Paradise Valley in Mt. Rainier National Park, to which throngs of winter recreationists make their week-end pilgrimages. Wenatchee has its winter playground on the Wenatchee National Forest, and Yakima goes to American River for its winter sports.

With its slogan, "An hour and a half from roses to skiing", Portland is taking to winter sports "in a big way". Promoted by the efforts of the Portland Winter Sports Association, skiing events attract thousands to the Government Camp area on the Mt. Hood National Forest. In cooperation with Portland organizations the Forest Service has improved ski jumps and cleared snags from 103 acres at Multopor Mountain Ski Hill; 136 acres at the Ski Bowl on Tom, Dick and Harry Mountain; and 25 acres at Nanitch point half way up the road to timber line. The Cascade Ski Club has performed yeoman's service in improving the ski run at Multopor Mountain, and the Forest Service is considering further improvements and necessary buildings near the ski jumps, as part of the possible program for this year. There now are as many recreationists on Mt. Hood in winter as in the summer.

Bend, Oregon, enjoys its present ski run at Windy Point, 15 miles above Sisters on the McKenzie Pass Highway, on the Deschutes National Forest, but the "Sky Liners" of Bend are working with Forest Service officials toward the completion of a more pretentious resort at Lava Butte south of Bend on The Dalles-California highway. The new ski run will rate a class A jump, and will boast the other appointments that make a ski lover's life worth living.

On New Year's twelve hundred enthusiasts from Eugene dedicated their new White Branch winter playground on the Willamette National Forest, 65 miles up the McKenzie highway. This winter resort in addition to its ski run has a large and attractive log shelter built by the Forest Service through CCC work, in cooperation with the "Obsidians" and the Eugene Chamber of Commerce.

Medford is developing its winter sports center at Union Creek - 65 miles up the Crater Lake Highway on the Rogue River National Forest. One of the distinctive features of this playground will be a three mile and a 15 mile easy grade "ski way trip" for enthusiasts who wish variation from the thrills of the steeper runs.

A winter sports area is being considered for Klamath Falls and Ashland in the Lake of the Woods district on the Rogue River Forest, where skating and ice-boating can be featured along with skiing. Salem is proposing a winter playground in the Breitenbush area on the North Santiam.

These days are teaching us that the commodity use of timber is not the only forest asset which holds an important place in the life of people and communities. - R-6 News Release

YE EDITOR DISCOVERS

Congressional hearings on Forest Service items in the Agricultural Appropriations Bill began on February 14 and ended on February 19. Nothing of outstanding importance developed during the hearings, and there seemed to be no inclination on the part of the Committee to cut appropriations below the amount allowed by the Bureau of the Budget. The substitution of "lieu Nira" for one million dollars of regular funds during the present fiscal year and the resulting omission from the current appropriation act of some "special schedule" items which have been carried for many years gave an opportunity to try for a long desired simplification of the Forest Service appropriations structure. This was first worked out with and approved by the Bureau of the Budget, and nothing in the hearings indicated that this proposal will meet with disfavor on the part of the Appropriations Committee of Congress. Important simplification of budgetary estimates and bookkeeping will result if the simplified form of appropriations is finally approved.

The film illustrating the effects of fire and destructive road building on erosion and streamflow, prepared by Region 5, was shown in connection with the hearings. The Committee was particularly interested in this method of presentation, because it gave them an opportunity to visualize data presented by the Forester.

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By the time this issue of the Bulletin reaches its readers, the units of the Washington Office which are to be located in the South Wing of the Department of Agriculture's extensible building will be at least partially settled in their new quarters. The greater part of the move was made on Sunday, February 17, and the rest will be made on March 3. While the move has made available, for the present at least, more adequate space for the personnel, many difficulties and inconveniences will no doubt be experienced in the handling of Forest Service work.

In response to a resolution introduced by Senator Hale of Maine in the last Congress, the Forest Service has been engaged during the past year in making a study of the pulpwood situation in the United States. The report on this work has been very largely prepared by Dr. Carl Curran of the Forest Products Laboratory and C. E. Behre of the Northeastern Forest Experiment Station, working closely with other members of the Washington Office.

The report, now completed, shows that our dependence on imports, which amounts to more than half of the wood equivalent of all pulp and paper consumption, is very largely the result of the American traditional preference for spruce. Technical developments of recent years point to a much wider use of other species in all pulp classes and indicate great possibilities for the pulp and paper industry in the Pacific Northwest and in the South. Our present national resources are fully adequate to meet all demands, but requirements for pulpwood must be coordinated with those for other commodities. The report stresses the need for integrating the pulp and paper industry with other wood-using industries and also the importance of maintaining an adequate growing stock to insure sustained yield. Properly handled, expansion of the pulp and paper industry would not only serve to attain a greater measure of our independence of imports but would also have far-reaching social and economic benefits.

Everyone would like to know when the word "Go" will be given on new emergency relief work. One man's guess is about as good as another's, but from present indications there is little reason to expect the bill to be passed by Congress and signed by the President very soon. If the appropriation is actually passed by Congress, the next question is how long a period will elapse before machinery is set up and someone in authority actually releases money and grants permission to incur liabilities for whatever work the Forest Service may be called upon to do. One guide in estimating the probabilities is what happened in the summer of 1933, when seventy-one days elapsed between the approval of the Nira act and the actual release of Nira funds to the Forest Service. The current desire and policy of getting the unemployed off the dole and into productive work at the earliest possible date argues for greater speed than in the summer of 1933. On the other hand, actual allocation of funds to approved projects will require the creation of elaborate executive machinery, and unless a great deal of preliminary work is done prolonged delay in releasing funds could easily occur. If one had to make a guess at this time, he probably could do no better than to assume that actual cash allotments for Forest Service emergency relief activities might be received any time between April 1 and June 1.

At the recent meeting of the National Forest Reservation Commission, the purchase of an additional 4,100 acre tract at Dukes, Michigan, was approved. This tract contains a small piece of property given to the Government by the Cleveland Cliffs Iron Company several years ago and lays out the plans for an experimental forest in the Northern hardwoods type. Included in this purchase was over 3,000 acres of old growth timber. As one of the main east and west roads in northern Michigan passes through or along the edge of this property, the tract is readily accessible and an excellent demonstration unit.

As a first step in preparing to build up the Washington Office personnel as required by the impending load of emergency relief work, Regional Foresters were asked if they wished to suggest any details of field personnel in order to combine training assignments with necessary strengthening of the Washington Office. Only one man was offered by the Regional Foresters and this offer was quickly withdrawn. Regional organizations will need the services of every experienced man and woman, if the impending enlarged emergency load is to be organized and directed successfully. The Washington Office must do its share of breaking in persons recruited from outside the Service, and all necessary preliminary steps are being taken to this end. People who have at one time had Forest Service experience will, of course, be more helpful, and a small number of such former employees are being found who will accept reinstatement for the period of the emergency.

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Arthur H. Koehler, wood technician of the Forest Products Laboratory visited in the Washington Office for a few days following the close of the famous Lindberg case at Flemington, New Jersey. Undoubtedly all readers of the Bulletin are aware of the splendid testimony which Koehler presented in this case dealing with the identification of the wood used in the ladder. Not only did Koehler identify the species but he determined, by reason of the faulty blade in the mechanical planer, the mill in South Carolina in which the lumber was sawed. Koehler also showed by means of striations in one of the boards used in the ladder that it had been planed by Hauptmann's own plane. He was also able to show by means of the annual rings, the formation of the grain, and the striations of the markings of the board that it came from a piece of lumber found in the attic of the Hauptmann home. Upon the closing of the trial, Koehler was interviewed over the radio on the part that wood played in the Lindberg case.

H. S. Betts of the Washington Office also testified in rebuttal at the trial on the occurrence of nail holes in this same side piece of the kidnap ladder.

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A road meeting attended by representatives of all Regions except 10 was held in the Washington Office from January 30 to February 8. The Forester clearly expressed to the meeting his views on truck trail standards of construction and the handling of all other engineering work in the Regions. The road manual received some rough treatment during the session and again is being revised.

INFLUENCE OF SHELTERBELTS ON CROP YIELD

Some recent data from the Kamennaya Steppe Experiment Station in Russia show the influence of shelterbelts on crop yield. The average increased yield for 13 years on fields protected by shelterbelts was 18 percent for rye grain, 30 percent for rye straw, or 25 percent for both rye grain and straw. In 1921, a dry year, the yield of grain in the protected fields was four times that of the open prairies, and of straw was 3 times. In 1923, a "normal" year, the yield of rye in the protected area was 63 percent and of straw 43 percent greater.

Similar results were obtained with oats. Thus in 1921, with protection the oat grain yield was 2.6 times greater and the hay yield 2.2 times greater than in the open. In the "normal" year, the yield of oats was 70 percent and of hay 57 percent greater with shelterbelt protection than in the open field.

At the Mariupal Experiment Station, the winter wheat yield was 75 percent greater and the barley yield 48 percent greater in the protected fields than in the open. This is based on 4 years record, 1926 to 1930. - E.N. Munns



SERVICE BULLETIN

CONTENT'S CONFIDENTIAL

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Thomas Roosevelt

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March 18, 1935

STREAM IMPROVEMENT WORK IN THE NATIONAL FORESTS TO DEVELOP BETTER FISHING

By Huber C. Hilton, R. 2

Possibly no work done in the National Forests by the CCC and other relief agencies presents such great opportunities for immediate returns or has proved of so much interest to the general public as the work of stream improvement to develop better fishing. In the Medicine Bow National Forest of Wyoming, as well as in the many other National Forests in Wyoming and Colorado where stream improvement work has been done, it has usually been of two classes. Rearing ponds have been constructed into which fry can be placed for a year or two before being liberated in the trout streams, and improvements made in the streams to better conditions under which trout may grow and develop.

Conditions in mountain areas are at best severe and small fry have a slim chance of survival against their many natural enemies, including larger trout, and the hazards of the change from hatchery to field conditions, such as swift running water, small supplies of natural food, and handling between hatchery and stream or lake. To develop fry to fish of sufficient size to withstand most of these dangers, is the purpose of rearing ponds. These ponds have been built in regions of high altitude where mountain lakes of glacial origin are to be kept stocked with trout and where fry are retained for but a single season, as well as at lower elevations where the fry may be left for two years, when they will be of sufficient size to care for themselves with little or no loss. Loss in planting fry directly into streams or lakes has been reported as high as 95 percent, while loss in small fish transplanted from rearing ponds to streams or lakes is usually almost negligible.

Various types of rearing ponds have been constructed including earth dams with metal or wood standpipes for draining the pond, earth dams with concrete cores, and timber dams underlaid with loose rock. Some very cheap and serviceable ones have been constructed by making use of beaver dams and installing standpipes and drainage boxes at costs of but \$50 to \$75. The general plan is to put fry into the pond in the spring and drain the pond either during the following fall or the second fall, and transport the small fish to streams and lakes by truck or pack horse.

Improvements placed in the rapidly flowing, rock strewn, mountain streams present an opportunity to greatly increase the production of trout. The mountain streams of the West are limited in acre production of fish both by lack of food and depth of water. Improve-

ments now being made include the construction of simple log and rock dams to form stream pools. These provide deep, quiet water and opportunity for plant life to develop, which in turn induces insect life. Deflectors or jetties which force the current to scour the upper portions of pools are also being built, as well as brush or log covers close to the shore under which trout may avoid the direct sunlight and take refuge from kingfishers or other enemies.

So far the work is largely experimental, but it is already showing surprisingly favorable results and it is felt that in a year or two these efforts will greatly increase the fishing opportunities in a region now subject to steadily increasing use.

WE ARE FLATTERED

By Howard R. Flint, R. 1

"Planning News", for January, 1935, voice of the Pacific Northwest Regional Planning Commission, carries a three page article about National mapping plans as outlined for them by The Board of Surveys and Maps, a Federal Government organization. The gist of what they say is:

The continental United States consists of 3,050,000 square miles, 26 percent of it covered by adequate topographic maps, 24 percent mapped over 40 years ago by methods and scales inadequate for present needs, and 50 percent of the entire area entirely un-mapped.

The plan and program urged by the Board is:

Complete the entire job in 10 years; the most urgent part of it, needed for land use planning, in two years.

Secure new aerial photographs to cover about 2,000,000 square miles of it.

The specifications set up by the Board, and those in use in R - 1 since 1931, are tabulated below for convenient comparison.

	Kind of Map	Principal Method of Collecting Data	Average Scale of Photos	Scale of Map Compil- ation	Plan for Final Map	Cost of Photo- graphy per mile
Proposed by Board 10-22-34	Plani- metric, drain- age	Vertical Aerial Photos	3.1" = 1 mile	2" = 1 mile	Contour based on plani- metric	Estimated \$2.50
Adopted by R - 1 1931	Plani- metric, drain- age	Vertical Aerial Photos	3.8" = 1 mile	2" = 1 mile	Contour based on plani- metric	About \$2.25

If imitation is the sincerest flattery, then the Board has leaned far over to kiss the legendary stone. Thank you, we appreciate the compliment and the support. Considerable delay and much proof was required to get this method of mapping partially recognized in the Forest Service.

The Board's specifications omit several features which R - 1's experience has demonstrated to be of major importance, namely:

1. Individual photo prints made available for field use are as important, perhaps even more useful, in the long run than the line maps.
2. All negatives in any public survey of this sort should by all means be the property of the Federal Government and should be permanently stored and fully indexed under a national system.
3. Individual prints selected from the index should be made available to the public at actual cost of printing and distributing as has long been done with Geological Survey quadrangle sheets.

DROUGHT DAMAGE DURING 1934 IN THE MIDDLE WEST

Severe drought conditions occurred in southeastern Indiana during the summer of 1934. The grass and ground vegetation on the Ohio River bluffs was completely browned and dry in early August. The tree growth suffered severely. Hackberry and black cherry leaves curled and died. Oak leaves and, in places, black and honey locust leaves were apparently uninjured; but, in others, branches or portions of crowns yellowed and died. Elm leaves were somewhat curled and partly wilted, but still intact.

In many places in Ohio and Indiana, beech trees died from the tops down during August. Particularly along roadcuts, the excessive drainage and cutting of roots killed the beech. In Gibson County, Indiana, in the drained White River bottoms, scattered remnants of bald cypress - relics of a once splendid stand - were damaged. All the crown, except the top 5 to 10 percent of the needles, had turned brown.

It was observed that the major drought damage appears to be in the beech-maple type in Ohio. In rather extensive ungrazed beech-maple woodlots, dead and dying trees were confined largely to the edge of the woods, but where the wind can sweep under the canopies of grazed stands, and where the forest climate has been destroyed, dead and dying trees are found throughout the forest.

For several years, the deterioration of single walnut trees has been observed in the cornbelt States. Apparently it is caused by the cumulative effect of drought and deficient soil moisture, coupled in many cases with root damage and soil compaction from grazing. Limbs and portions of crowns die back although exposed to full side light.

In northern Arkansas, trees on slopes directly exposed to the sun's rays were mostly affected. Stands on both sandstone and cherty soils showed damage. In the juniper type at lower elevations the damage was most severe. The leaves of associated black oak, black-jack oak, post oak, black hickory, and chinquapin withered and dropped. Some juniper and shortleaf pine were killed, but showed much greater resistance to lack of moisture than the hardwoods. On the better red oak-white oak-hickory sites, it was very common to find dogwood badly defoliated where it grew as an understory.

It is felt that the consequences of this most severe drought are not as serious to tree growth as seemed evident when whole hillsides first began to turn brown. About the middle of September, after several rains had fallen, the trees which were seemingly dead were growing a new crop of leaves and many will very likely survive. - Central States Forest Experiment Station.

Dear Editor:

Sometimes, about two moons ago, I came to town to join your show, and work awhile among your boys and pretty girls and city noise; and then the first thing that I heard, as thro' it all I slowly stirred, was wordy tumult (like a storm) that called for a new uniform.

By Gosh! I said, at last, it's come! No longer I'll be classed a bum; and when I hit the trail out West, I'll wear new hat, coat, pants and vest. They'll be real classy -- new and neat -- and of a style that's hard to beat; and won't the boys look down their chin when I, full-rigged, come strutting in.

I thought how William, my old chief, would holler out, you old hoss-thief, why didn't you, while you were there, buy me a suit like that to wear; and Ralph, Bruce, Frank, Paul, Carl and Steve would strike at once for annual leave, to go with him to some place where new uniforms they could compare.

And each would soon come proudly back with outfits like my crackerjack -- as like as eight round peas could be, in everything from A to Z. And we'd go strolling down the street in all them nifty clothes so neat, and all the gals, with smiles sublime, would say, "Hi, boys, come up some time"!

But shucks, Ed, I'm a sad old guy for all this time has drifted by and not a thing has come to view to make that rosy dream come true. No uniform is yet in sight, and, tho' I've looked with all my might, no single sign of it I see, which makes it tough on poor old me.

For you can see I've waited long, I've wore this coat -- once good and strong, -- till it's a sight and far from warm, while waiting on that uniform. And now when I this trip reverse, I'll be just like I was -- but worse -- for these old pants, I wore to town, have lost the part where I sit down.

And 'bout the cost -- when I drove in, I had a figure tall and thin, but now, when I trade for that suit, I'll have to give ten bucks to boot; for while I sat here in my den, my waist line jumped that extra ten; and now a fair price they'll refuse because of extra cloth they'll use.

Well, Ed, so-long! I'll cinch my belt and head back for the Roosevelt; forget about them swanky suits, and don my chaps and high-heeled boots, and my old Stetson, tall and wide, that's always been my joy and pride -- and thank the Lord forever that there ain't no feather in that hat.

For Ed, I reckon in the West them clothes is what the boys like best, and maybe if I'd worn that lot of fancy clothes, I'd thought so hot, my chief and all my pals might say, Look what the cat dragged in today, and holler Scat! or hint, at least -- you'd better hit the trail back East.

LoCoed Silas, R-2

THE AGE OF IRON (NOT IRONY)

By C. S. Crocker, Nezperce

A recent issue of the Northern Region News was made up largely of grazing articles, and while attempting to digest these reports from the range, I became imbued with the desire to apply my technique in handling the masculine bovine. Here's an idea which generated from an incident occurring about ten year ago, as follows:

The trip had been a hard one and the long, hot August day was nearing its close. My horse had developed temporary paralysis of the ribs and requests for more than two mile per speeds, transmitted through a good pair of spurs, were no longer productive of results.

Suddenly and without apparent provocation, Dobbin planted his feet, threw his ears forward, took a "Stop, Look & Listen," snorted and wheeled in retreat. By the time this first exhibition of recuperation was completed, I could distinctly hear a wood saw pop-popping ahead. Before I could more than question the possibility of a wood saw in this back country, it appeared around a bend in the trail and took the form of a motorcycle. It approached

as fast as a horse could lope. By the time I had Dobbin anchored to a Jack pine the popping contrivance had reached us. It carried a kid probably in his teens and lashed on a carrier behind him was a pack which would have made an ambitious mule envious.

"What are you trying to do with a thing like that on these trails?" I asked. "Don't you know you'll wreck every pack train within hearing distance, if you don't kill yourself on the next switch-back?"

The kid grinned, gave me a tailor-made cigarette (which I couldn't smoke in his presence) and after screwing down a couple of grease caps, started on up the trail in a cloud of dust. "Well, I'll be a_____."

That was ten years ago.

Today we have fewer pack trains to frighten. Roads traverse the old "saddle horse country" and we are motorizing the organization.

The day is not far distant when nearly every employee charged with field administration will need a motor vehicle to adequately cover his ever-increasing territory. What this motorizing will cost in equipment alone is an astounding figure. The cost for cars will be great enough to eliminate much-needed guard positions.

You say, "Get men who can furnish their own cars and pay them mileage." Chiseler! You can't expect a man to buy a car for \$500, maintain it, furnish gas and oil, make payments on it and receive only sufficient mileage to pay for operation of the vehicle. His salary for the season is perhaps \$200. Where is his gain in such a proposition? He can't get by with an old Model T. He must have a car which will meet the time standards of our fire plans. We can't afford to take chances on a poor machine.

All right then, we will furnish him a \$500 car, maintain it at a cost of five cents a mile, and rest assured that he will reach all his fires on scheduled time. We will cash in on our roads. We know he can meet the one-hour travel required in our fire plan. Cheap insurance.

But, since most of our high-danger fuels are within areas of dead timber which has the habit of falling across roads during these windy, electric storms, our \$500 investment is tied up occasionally while the guard saws out a log or two. Maybe he logs for an hour or so and finally gives up, parks the car and goes on foot at a three-mile-per-hour speed where our organization set-up is based on fifteen-mile-per-hour travel. Our insurance is shot - and the fire is quietly awaiting the delayed arrival of our smokechaser!

This brings me back to my story. What would the kid I met on the motorcycle have done in a similar case? Chances are he would have pushed the thing around the big logs and over or under the others and would have ridden to the fire in much less time.

Why isn't it worth thinking about?

A new motorcycle of light weight costs only a third the price of a car. Maintenance and upkeep are correspondingly low. No garage is necessary. Park it under a manta. They are faster on crooked or winding roads, more easily skidded under a three-foot log across the road, and you don't have to back them up a mile to pass another vehicle on a ten-foot motor way. There's no top or sides to obstruct the rider's view while traveling and they are too uncomfortable to encourage anything but official trips. The type of men we employ as firemen usually like cycles and there's only half the chance of flat tires.

Why not have Bradeen furnish them by the bunch, and include as standard equipment a hip flask to be used to carry the extra month's supply of gasoline?

P.S. I can't ride one and hate the d_____ things personally. - From R. 1 Bulletin

YE EDITOR DISCOVERS

Because of insufficient funds to carry out an effective program this year, the National Fire Prevention Year Campaign has been postponed until 1936. This does not mean,

however, postponement of the fundamental purpose of increased fire protection efforts, either in Washington or in the field.

Since the objective is to reduce the number of man-caused fires, this can probably best be accomplished through direct contact with the man in the woods. To this end, plans are still being made to use the Civilian Conservation Corps at checking stations and on patrol of forest areas.

The Regions have indicated that their analyses show the localities where fire prevention is a major problem. Intensified work in these areas this year should furnish a good start and help to develop a technique for next year's campaign.

As additional funds are made available, the material already prepared will be printed and movies and trailers completed; so that they will be ready for use next year. It is also planned to send copies to the field of any material that is completed in time for use in this year's local fire prevention programs.

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As this is being written (March 7) the prospects for action on the \$4,800,000,000 emergency relief appropriation is much improved. An amendment to the act has been introduced in the Senate which sets up allocations of funds to eight broad classes of work. One of these classes is forestry and allied subjects, 350 million dollars being set up for that purpose. How much of this amount may find its way to forestry and allied work under the supervision of the Forest Service is, of course, totally unknown. The state of inaction on the bill because of conflicts in the Senate is likely now to be succeeded by a series of definite moves which might develop within a few weeks into action by the Senate, adjustment of differences between the House and the Senate, and approval of some form of bill by the President. Everyone in the Forest Service will be glad when it is known definitely whether we are to be called on to undertake any considerable program of work relief under pending legislation.

If limitations should finally be fixed on the amounts relief workers are permitted to earn, it is hoped that a policy will be adopted allowing the Forest Service to work under annual instead of the monthly or weekly limitations, which would be so disruptive to any work undertaken in short season National Forest areas. There is no assurance, however, that, in the confusion attending Congressional appropriation and subsequent executive action, any real consideration can be secured for the circumstances, so common with us, under which relief workers should be permitted to work straight time during the short summer working period in order to earn enough to carry them through the long winter period when no high country work can be done. City and low country conditions are naturally very much in the front of the minds of the legislative and general administration agencies, and it is difficult to get recognition of our short season working period and attending economic conditions, important as those are from the standpoint of National Forest activities.

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By approving for purchase 995 acres in central Puerto Rico, February 28, the National Forest Reservation Commission started acquisition of the first land in the new Toro Negro National Forest Purchase Unit, formation of which was authorized by the Commission March 26, 1934. Development of the new forest is expected to help in meeting the Island's problem of depleted fuel and timber supply, to protect watersheds, and to furnish local employment.

Few forests in densely populated Puerto Rico contain large timber, as the demand for building material and charcoal wood for domestic use is very heavy. But the rate of tree growth is much more rapid than on the Continent, and under Forest Service management for continuous production the forest lands will help furnish a dependable supply of needed products, it is expected.

A smaller tract of land was also approved for purchase to be added to the Luquillo National Forest in Puerto Rico.

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A prominent forester and consulting engineer in Sydney, Australia, writes the Forester, in part, as follows:

"Recently your office very kindly made available to me a copy of the 1933 Report. Might I congratulate you and your colleagues on the splendid achievements set out in this monumental record of service. Just at the moment New South Wales is grappling with her public forestry policy, in fact a reorganization is pending, and it has given me great pleasure to transmit to the responsible Minister of the Crown some of the highlights of achievement contained therein. Our conditions, whilst dissimilar in many respects, in their broad aspects are akin to those of Western North America so that when new ground is traversed by you it paves the way for similar action over here."

"The writer was for some years Director of Forestry to the New Zealand Government and as you know is a Senior Member of the Society of American Foresters. Of all the various agencies overseas, the United States Forest Service has contributed more perhaps to the advancement of public and industrial forestry in Australasia than any other single agency, British or otherwise."

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Once again Germany takes the lead in forestry matters. The latest step is that of making compulsory the use of certified seeds in reforestation work. Forest owners have been ordered to remove all poor quality trees from their stands that might produce inferior trees.

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B. F. Heintzleman is transferring from the Forest Service to become the Deputy Administrator for Conservation in the National Recovery Administration. This new office has been created in order to direct the forestry activities of all industries engaged in woods operations under NRA codes. The Forest Service will be designated to act as an inspection force and technical adviser to the Deputy Administrator.

Mr. Heintzleman, by his personal qualifications and extensive Forest Service experience in the Northwest, in Alaska, and more recently as head of our Forest Code activities, is peculiarly well fitted to make the work of the new position a success. The Service will extend the fullest cooperation possible to the new Deputy Administrator to facilitate and expedite the carrying out of all conservation activities under Article X of the Lumber and Timber Products Code.

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C. L. Forsling, at present Director of the Intermountain Forest and Range Experiment Station, is being transferred to the Appalachian Forest Experiment Station, as Director of that Station.

E. H. Frothingham, who has served as Director of the Appalachian Station since its organization in 1920, has, at his own request, been relieved of the directorship in order that he may concentrate his efforts on silvicultural research problems. Professor Reed W. Bailey of the Utah State Agricultural College at Logan, Utah, who for the past year has been on leave from the College and serving as Conservationist at the Intermountain Station, will become Director of the Intermountain Station.

IMPROVEMENT PROGRAM AIDED BY PUBLIC WORKS ALLOTMENTS

Exhaustion of the Public Works funds, allotted to the Forest Service in 1933, is now bringing the program to a close. The improvement and development projects carried on under the PWA allotments furnished more than 3,570,000 man-days of work, and at the peak of the program more than 20,000 persons were on the employment rolls.

Employment of men under this PWA program was carried on by the Service in addition to that provided for the CCC, and for a large number of transient relief camps in cooperation with the Federal Emergency Relief Administration. An additional \$15,000,000 of Public Works funds also was allotted for National Forest highway construction. All told, the Forest Service provided some 26,000,000 man-days of work for the unemployed last year, through these various programs. Carefully considered plans indicate that there is opportunity in the National Forests for at least 20,000,000 man-days of similar useful work annually for years to come.

Work on the National Forests under the \$30,000,000 PWA allotments covered 59 classes of projects. Activities completed in some of the more important categories, up to February 1, included construction of 3,813 miles of truck trails, 2,532 miles of horse and foot trails, 115 bridges, and 3,761 miles of telephone lines. Erosion control work covered 41,994 acres; tree disease control 442,030 acres; and insect control 521,313 acres. A total of 553 lookout houses and tower observatories was constructed; and other structures ranging from simple shelters and tool caches to warehouses and ranger stations numbered 1,879. Timber stand improvement work covered 233,707 acres. Reforestation by planting was accomplished on 23,861 acres, and 5,100 bushels of tree seed were collected for sowing in nurseries.

Recreational improvements included the development of 932 public campgrounds. Improvements were completed on 548 miles of fishing streams.

Improvement work completed on livestock ranges within the National Forests included 3,353 miles of range fences; development of 56 corrals and 5 pastures; 499 miles of drive-ways; 1,861 water developments for livestock; eradication of poisonous plants on 18,217 acres; revegetation of 10,670 acres of depleted range; and rodent control (in cooperation with the Biological Survey) on 6,186,653 acres.

Some important mapping and survey work was accomplished by the Forest Service under the PWA allotments. Boundary surveys covered 2,197 miles; surveying and mapping of planting areas, 271,000 acres; forest type surveys in field, 80,000 acres; compilation of cover type data, 12,000,000 acres; and field mapping by ground methods, 2,276,300 acres. Timber resource estimates were completed for 82,400,032 acres. Compilation of visibility maps for fire detection purposes was completed for 2,000,000 acres. Field photography for aerial mapping covered 3,048,000 acres, and compilation of air photo drainage maps was completed for 3,751,500 acres.



SERVICE BULLETIN

CONTENT'S CONFIDENTIAL

WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES. IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT. ***THE TIME HAS COME FOR A CHANGE. AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY *** TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES. WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER.

Robert R. Marshall

Vol. XIX No. 7

Washington, D. C.

April 1, 1935

FORESTER ISSUES STATEMENT ON GRAZING PERMITS

Following recent conferences with representatives of the American National Livestock Association and the National Wool Growers Association, led by their two respective secretaries, F. E. Mollin of Denver and F. R. Marshall of Salt Lake City, the Forester issued the following statement regarding grazing permits on the National Forests for the year 1935:

"I am keenly interested in and appreciate the situation facing the livestock industry, which has been so excellently portrayed by the representatives of the two national organizations. In brief but clear statements, these men explained the many problems with which they are confronted and the urgent need of all public agencies formulating and applying such policies as would better assist the industry further along the path of recovery.

"The stockmen present were unanimous in the opinion that the security of their business depended upon the restoration of ranges adversely affected by drought. They also pointed out that if these men are to advance along the road of recovery and meet their financial obligations, it is extremely desirable that all uncertainty as to the tenure of permits be removed. It was suggested, therefore, by the representatives of the stock interests that the reissuance of term permits in accordance with the past policy of the Forest Service would be a step in the right direction and accepted by stockmen permittees as a valuable aid. This problem was discussed thoroughly.

"All industries have felt the effects of the depression. Most industries are still in an unsettled state. During the past year, the National Government has for the first time attempted to place the vast public domain under administration and regulation through the establishment of a Grazing Administration in the Interior Department. Some action of the kind was necessary both in the interest of the livestock industry and to save the public range from destruction by misuse. The Department of Agriculture has also been extending every effort to stabilize this industry and assist it through the period of drought and depression. Proper integration of policies between the two Departments appears desirable before long-time contractual obligations can be made by the Forest Service. For this and other impelling reasons, it is my judgment that only annual permits should be issued for the season of 1935 for grazing on the National Forests.

"Another question which was emphasized by representatives of the livestock industry was the need of Federal agencies coordinating their policies so that the credit structure of the livestock industry would be properly safeguarded. I have assured the stockmen of my interest in the development of a policy which would protect all interests. I am hopeful that this can be effected through conferences among interested agencies.

"Since term permits expired in 1934, and under existing rules and regulations, the Forest Service is obligated to review the question of distribution of grazing privileges, the stockmen naturally have felt considerable alarm as to any action of the Forest Service which might curtail the privileges of present users. The Forest Service is obligated to make the use of National Forest ranges contribute to the greatest possible extent to the permanence, maintenance, and welfare of local communities. It is a very large and difficult social and economic problem. It involves all of the various factors of proper land-use planning, based upon a comprehensive knowledge of the adaptability of soils to crops, marketing conditions, and the various problems of successful farm management. In view of this fact, it is my hope that the Department of Agriculture will find it possible to initiate an intensive economic survey of these various local communities dependent on National Forests and public domain. This survey should determine such economic limits as conditions in each locality justify, and furnish a sounder basis on which, in the future, to approve applications. Pending this survey, however, the Forest Service feels it can proceed to take care of those applicants who by the location and character of their ranch property are dependent upon the National Forests for a reasonable amount of range, without in any way interfering with the application of the results of the broad survey recommended."

"A GRAND JOB"

By Ellery A. Foster, Washington

The following message has been received by the Forest Service from the National Resources Board:

"I am glad to know that the Forest Service was able to put the material compiled for the Board's Report into such useful and interesting form and offer my congratulations and thanks for a grand job.

Sincerely yours,
(Signed) Charles W. Eliot, 2nd
Executive Officer
For the Chairman."

This congratulatory message was brought forth by the atlas containing prints of 86 maps prepared from the Form LUP #1 reports. Several of these maps are included in Part II of the published Report of the National Resources Board and 59 are included in the separate Report of the Forest Service which has been prepared for eventual publication.

In general, these maps can be considered as supplementing the statistical data of the Copeland Report, which gave totals for large regions but little information on distribution within regions, and while recommending large increases in public forest ownership did not show the location of lands recommended for such ownership - in other words it was a plan without blue prints.

The published report of the National Resources Board consists of five parts, on sale at the Government Printing Office:

		Pages	Price
Part	I Report of the Board	1 - 88	\$.25
Part	II " " " Land Planning Committee	89 - 252	.35
Part	III " " " Water Planning Committee	253 - 388	1.00
Part	IV " " " Planning Committee for Mineral Policy	389 - 450	.15
Part	V " " " Board of Maps and Surveys	451 - 455	.20
Parts I - V bound in one volume (cloth covered)		1 - 455	\$3.25

Part I briefly summarizes the findings and recommendations of the Land, Water and Mineral Committees and recommends a permanent agency and program to coordinate Federal planning activities.

Part II discusses prospective requirements for land and the problems connected with each of the major forms of use. It recommends: more and better planning; zoning; public acquisition of submarginal farms, forests, recreation, wild life and other areas, including large increases in both the National Forests and National Parks; State legislation to clarify titles and policies in regard to tax-reverted land; better coordination of public acquisition programs; collection of basic data needed for planning, including Federal, State and local cooperation in classifying and inventorying land resources.

About twenty pages of Part II are devoted to forestry and emphasize the need for planning and public control to prevent continued destructive and wasteful exploitation of forests which the report states "is extending to stands of volunteer second growth" where "in some respects (it) is even more wasteful and uneconomic than (in) virgin forests." The maps of recommended ownership and intensity of management of forest land are included in half page size. These maps provide rough blue prints for the program of public and private forestry and as such are being used as a basis for the expansion of the forest purchase program. (They are, of course, subject to current revision upon agreement of the several interested agencies, and are to be kept up to date in this way, in order to meet new problems as they arise.) Fifty-two million acres of farm land found available for forest use by the Copeland Report is balanced in the N. R. B. Report by a like amount of forest land to be converted to non-forest use by 1960. Hence, where the Copeland Report predicted an increase of 52 million acres in forest land the N. R. B. Report predicts no net change by 1960.

Part III, the Report on water resources, had the benefit of the long labors of the Mississippi Valley Committee and utilizes numerous illustrations from the Mississippi Valley Report, (Report of the Mississippi Valley Committee of the Public Works Administration, 234 pages, \$1.50, Government Printing Office, 1934). The membership of the two Committees is identical. Former Chief Forester H. S. Graves is a member. The report recommends public control of water resources to the extent necessary to remedy the pollution problem and to prevent wastage of water in areas where it is of high value, and for the control of erosion, and because of the intimate relation of water to other resources the report covers in a general way almost the entire broad field of resource planning. It is considered outstanding among the five parts of the report.

Part IV, the Report of the Committee on Mineral Policy of which Mr. Silcox is a member, warns that supplies of many important minerals are by no means inexhaustible. The known reserves of oil, for instance, are adequate for only 10 to 15 years at the present rate of exploitation.

Part V, Report of the Board of Maps and Surveys recommends a 10-year program for completion of topographic surveys for the United States, and presents maps showing areas now covered by such surveys.

Copies of the reports have been difficult to obtain in sufficient numbers for the desired official distribution within the Forest Service. Part I has been mailed direct from the National Resources Board to Regional Foresters and Experiment Station Directors. Five hundred copies of Part II have been received and sent to Regional Foresters and Experiment Stations for further distribution within the Service, and sufficient additional copies of this part are to be distributed so that combined with the previous consignment a copy can be furnished to each Supervisor and District Ranger. If additional copies are needed they can be obtained by purchase from the Government Printing Office.

Thus far it has been impossible to obtain copies of Parts III and V for distribution to the field. Part III will be of especial interest to Forest Officers, as will the Report

of the Mississippi Valley Committee.

The Report of the N. R. B. is the most comprehensive yet prepared on a nation-wide scale and dealing with national resources, yet it is made clear in Part I that this is only the beginning of the type of planning that is required if the resources of the United States are to contribute in fullest measure to the general good today and still be preserved and improved for tomorrow.

"AND SOME (SEEDS) FELL ON FERTILE SOIL AND PRODUCED A HUNDREDFOLD"

By Leo A. Isaac, Pacific Northwest For. Expt. Sta.

In these days when an appropriation for reforestation may bob up like a mushroom (and fade away as quickly), and the need for unemployment relief is acute, it is perfectly natural that foresters should cry out for a method of reforestation that is flexible, hence Munns' challenge "Mice and Men" (Service Bull. Feb. 18, 1935). Broadcast seeding may be the answer in many instances, even though it be as costly as planting, or even more costly. The establishment of nurseries and raising of planting stock requires years and cannot be dropped on a moment's notice. Both the need for employment and the appropriation may pass out of existence before the trees are planted.

That direct seeding offers some promise has been demonstrated by the Pacific Northwest Forest Experiment Station (Service Bull. Nov. 7, 1932, and Forest Research Notes No. 11, May 1933). Small seeded species (Sitka spruce, western hemlock, and western red cedar) were used with singular success when sown within their natural range in the fog belt and during the first and second year following a slash fire. Sample areas on a 1928 burn seeded with a mixture of the above-named species at the rate of 1.6 pounds per acre in January 1929 had an average stand of 2800 seedlings per acre in 1932. Other parts of the same area seeded a year later at the rate of 2.24 pounds per acre had 1900 seedlings per acre in 1932. Even better results were obtained with red alder.

If success is to be obtained by broadcast seeding, the pitfalls of previous work must be avoided and certain definite rules observed:

1. Ground conditions must be right--we obtained best results one to two years after slash burning.
 2. Sow early enough so that seed may be worked into soil by winter rains and snows.
 3. Use native small-seeded species (200,000 to 750,000 per pound) that are not likely to be found by birds and rodents; spruces, hemlocks, cedars, larches, redwood, and perhaps lodgepole pine should be suitable, also red alder and some other hardwoods.
 4. Success may be obtained with larger seeded species if poison is spread with the seed to reduce rodent population.
 5. The sowing cost of large areas may be greatly reduced by sowing from an airplane.
- Out here in the Northwest we have bested the mice once by selecting small-seeded species and again by spreading poison with the seed.

(Author's note to editor: This is to help reestablish Munns' faith in the flock of foresters.)

CHARACTERISTICS OF CREATIVE LEADERSHIP

By G. D. Pickford, R. 4

Too often self-analysis of an outstanding executive gives love of hard work, frugality, etc., as the key to success.

Scientific analyses which compared the characteristics of a large group of mediocre with an equally large group of up-and-coming executives gives the following results. To be a good executive leader, one should be endowed with ten basic characteristics. He should:

1. Possess a world of self-confidence.
2. Be a direct actionist.
Be able to deal openly - man to man leadership. No subterfuge.
3. Be able to criticize without antagonizing.
4. Be willing to both accept and delegate responsibility readily.
5. Have the capacity to make decisions and the fortitude to stand up for them.
6. Be widely read and well posted.
7. Want facts, know how to get them and how to use them.
8. Want his reasons for actions understood but should act anyhow.
9. Welcome suggestions but still do things pretty much in his own way.
10. Not pass the buck.

In other words the study showed the executive leader to be a direct realist.

Contrary to sentimental "sob story" accounts of great leaders, it was found that executives do not necessarily -

1. Need to love hard work
2. Need to be frugal.
3. Need to be the "strong, silent" type.

On the contrary it was found that many successful cases were not overly endowed with the gentle, humane, noble or pleasing personal qualities generally accredited to a leader.

Government work requires slightly different leadership characteristics than does business:

1. Business is dominated by 1 person or group of individuals whose sole idea is personal gain.
Government work is a service to public with greatest good to the public and not profit the objective.
2. In business, leaders are gauged by their ability to help produce a margin of profit. In government, service to humanity is the goal.
3. Government leaders must work not only with employees but with the section of public directly or indirectly interested with his project. The public, in reality, is the employer. Therefore, a Government leader cannot be as "hardboiled" as a business executive. A business executive leads only his subordinates. A Government leader must also lead the public which is not subordinate.

A Government executive in addition to the ten basic characteristics previously mentioned should:

1. Have plenty of physical and nervous energy. No one follows a sluggard.
2. Be filled with enthusiasm for his project. Must have caught sight of a value, a vision, an ideal.
Not all enthusiasts are leaders but certainly all leaders are enthusiastic.

NATION'S FIRST CCC ROLLEO HELD ON WASHINGTON'S BIRTHDAY

By Emma H. Morton, R. 6

Of all the celebrations staged in honor of his natal day, our first president would doubtless have enjoyed most the one held a Gold Beach, Oregon.

It was a celebration that should make CCC history. Participants in a rolleo, as all woodsmen know, must have endurance, skill and courage; and all of these and more, the old time Western loggers agreed, with approving nods, were displayed by the boys from the Humbug and Sebastian CCC Camps. Most of the contestants, coming from Chicago and the Middle West but a few months ago, had never seen a big tree before they witnessed the floods of deep green overflowing the hills of Oregon. Few of them had ever seen an axe, or a Royal Chinook saw, or knew whether a peavie was a tool or a grouch.

Gold Beach population came en masse to do the boys honor and practically every business house contributed some prize for the contests.

As the boys gathered on the "jousting" field at 1:30 o'clock in the afternoon, each seemed determined to carry off all available trophies for his Camp or else himself be carried off disabled.

Large logs were stood on end to simulate tress for the felling contests and other logs were arranged for splitting and bucking. Prizes were awarded for double under-cutting, single and double bucking, falling, chopping, wood splitting, knot tying and splicing. The final contest was a tug of war. Humbug CCC Camp captured a total of 37 2/3 points against Sebastian's 31 1/3.

Just for good measure, and to top off the day with real Western hospitality, the boys gave a free dance in the community hall, the use of which was donated by the Gold Beach Chamber of Commerce. And so ended what is thought to be America's first CCC rolleo.

YE EDITOR DISCOVERS

Preliminary field studies have just been completed by investigators in the Plains Shelterbelt organization and are to be assembled in a comprehensive report as the basis for conducting the field work of the project. A soil survey has been made, and records compiled, to serve as a basis for the final adjustments in the boundaries of the zone and the determination of specific sites for shelterbelts within the zone. Surveys of native vegetation have also been made, particularly with regard to trees that can be used as a source of seed in producing nursery stock suited to the conditions under which planting is to be done. The growth and history of existing plantations have also been investigated. Records of the Weather Bureau and other Government Bureaus, also records of research work carried on by State Agricultural Colleges, Extension Services, and other State Departments, have been studied so that the present investigative work in the field could be correlated with scientific data accumulated in the past.

Sites for shelterbelts to be planted this spring have been selected. They are located in the following counties:

Texas	- Childress and Wheeler
Oklahoma	- Jackson, Harmon, Greer, Kiowa, Washita, Beckham, Custer, Roger Mills, Dewey, Ellis, Woodward, Major, Woods, Harper, and Beaver
Kansas	- Kiowa, Pratt, Kingman, Edwards, Stafford, Pawnee, and Barton
Nebraska	- Red Willow, Frontier, Custer, Antelope, and Holt
South Dakota	- Gregory, Charles Mix, Douglas, Hutchinson, McCook, Hanson, Davison, Sanborn, and Miner
North Dakota	- Dickey, LaMoure, Logan, Stutsman, Kidder, Foster, Wells, Eddy, Benson, Towner and Rolette

The area to be planted will be limited this year by the amount of planting stock that can be obtained from existing nurseries, and therefore will necessarily be small.

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The next meeting of the National Forest Reservation Commission is set for March 25, at which time an effort will be made to present a purchase program sufficient to obligate the remainder of the thirty million dollars allotted by the President for land acquisition. The unobligated balance at present is about \$2,500,000, plus such additional amounts as may be released by failure to consummate heretofore approved cases. Unless the emergency conservation act is extended by Congress within the next ten days this money will cease to be available after March 31.

Since the thirty million was allotted, the area approved for purchase has totaled 7,723,161 acres at a total cost of \$22,292,940, or an average of \$2.88 per acre. The purchases include a number of large properties supporting fair to heavy stands of merchantable timber.

The established purchase units have been subject to processes of consolidation, re-division, and adjustment which from time to time change the numbers of units recorded in the program. As now designated, there are 79 specific purchase units in the continental United States, plus two in Puerto Rico. These units contain a gross area of 47,564,988 acres, of which 14,493,614 acres are now owned or in process of acquisition by the United States. The remainder of the purchasable land within these units is approximately 25,436,000 acres, and the estimated cost of acquiring such land is \$106,714,000. The major question at present is whether, or when, the policy is to be extended to the Western States. California, Oregon, Washington, and Utah already have passed the necessary acts of consent and similar action may be taken by others of the Western States. The factor of financial ways and means will have a large influence in determining whether the purchase work should be extended into new territories or whether the funds available for land purchases shall be employed primarily to complete projects already under way.

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Forest Ranger W. M. Sherman of the Chugach writes as follows regarding the performance of radio sets on his Forest:

"We have been getting wonderful service out of the M 57 set and SP 181 set. The SP 182 has not been working satisfactorily since we got it, but I think it will be fixed all right in the next few days. ***

"With the exception of a few minor adjustments in the SP 181 set it has given wonderful service. Occasionally in Seward the local interference is so bad that we can't understand what is said, but it generally comes in clear some time during the day.

"We have had a regular daily schedule every day with the Government station WXE at Anchorage, 114 miles distant, and have tested with the station at McGrath. We pick them up right along and they have no trouble in getting us. McGrath can easily pick up the SP 181 set too. This town is about 500 miles distant.

"These sets have been a wonderful help through the winter in contacting the camp and keeping in touch with the activities. The closest we have used the SP set this winter is about 45 miles."

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The reports from the Regions on cooperative relationships between the Forest Service and other agencies have been worked up into final form and transmitted to the Secretary. Although the request for this report was not initiated in the Forest Service, the information should be of great interest to us. No such survey of the whole field of cooperative relationships between the Service and other agencies has been undertaken before.

The Forest Service actually cooperates closely with almost every type of American institution existing in the National Forest States. The nature of the social and economic relationships which arise between a Federal Bureau and other public and private agencies throughout the country should be of much interest to students of government and social questions, as well as to Forest Officers who have never had an opportunity to recognize the

nature and intimacy of the relationships which have grown up during the thirty years of National Forest administration.

Word has just been received from Mexico that Senor Ingeniero Miguel A. Quevedo, well known in Mexico for his efforts in behalf of the Mexican forests and one of the earliest proponents of reforestation in that country, has been appointed Chief of the new Department of Forestry, Fishing and Hunting. It is highly significant that the head of this Department of Forestry is on a parity with the Secretary of the Department of Agriculture. No longer can we call Mexico an unenlightened country.

At the "educational assemblies" which the R-4 Office is holding each month, some very interesting subjects are being discussed. The meetings, which begin at 4 o'clock sharp and end at 5 sharp, are in charge of a discussion leader, who confines his efforts to directing and guiding the discussion by stating queries and issues and keeping the meeting orderly. They are open to all employees. We hope to quote in the Service Bulletin from time to time parts of some of the most interesting discussions. As a beginning we are using in this issue excerpts from a talk on "Leadership" by G. D. Pickford.

FORESTS - A CURE FOR DISEASE

By L. F. Kellogg, Central States For. Expt. Sta.

Many are the claims made for forestry in its relation to the welfare of a people - and firm are the foundations on which these claims are based. Wood, water, game, and recreation all have a place in the picture; but forestry has never been advocated, in the United States, to act as a curb on disease, (that is, not yet).

A Slovenian, Louis Adamic by name, emigrated to America when 14 years old. During 1932 he returned to his native country in Yugoslavia on a Guggenheim fellowship to study his homeland and its people as a basis for a book. This volume "The Native's Return" appeared in 1934.

In looking into the hygiene of the Serbians and the Government's efforts to improve the health and living conditions of these backward people, he came into contact with the plans of a Dr. Stampar, who is fighting disease with forestation.

"In South Serbia, where the Byzantine and Turkish overlords, as already mentioned, had denuded the mountains in order to supply Egypt, Constantinople, and Asia Minor with lumber and charcoal, I saw men at work on mountain ridges planting young trees under the supervision of sanitary engineers from the central hygienic headquarters at Skoplye. 'This,' it was explained to me, 'is also one of Dr. Stampar's ideas. He perceived already in 1920, when he first visited South Serbia, that we could never hope to completely eliminate the malarial mosquito (which even now causes 300,000 cases of the disease every year) so long as there are no forests in the mountains to hold back the rain water which now rushes in torrents into the valleys and forms swamps where the mosquito breeds in tens of millions, and where we can't totally destroy him with crude oil and other such comparatively superficial means. Dr. Stampar believed from the beginning that we must attack the problem at the root. We must make forests grow again.'"



SERVICE BULLETIN

CONTENT'S CONFIDENTIAL

WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES. IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT ***THE TIME HAS COME FOR A CHANGE. AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY *** TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES. WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER

Theodore Roosevelt

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Washington, D. C.

April 15, 1935

THIS C. C. C.

By Harold H. Buckles, formerly a member of Co. 857, Denison, Texas
(Awarded one of the places in a recent short story contest conducted among members of the CCC by "The Blue Pencil," a literary magazine in New York City)

This CCC - what is it? What does it mean to the public besides taxes? What does it mean to the men in it besides a warm place to sleep and plenty of food?

Does it earn its way? Are the men rebellious, bitter, resigned, hopeless, dogged, happy, thoughtless? Is it getting anywhere? Will it stay?

Those seem to be the questions, together with several thousand more, which occur to Mr. and Mrs. John Public when the curious couple meet a member of FDR's Civilian Conservation Corps. ***

Trying to answer those questions has given me an unusual opportunity for doing some real thinking on the subject of the Civilian Conservation Corps and on the current trend toward paternalism in general. ***

I was enrolled in this organization (enrolled, by the way, is the correct term, and not "enlisted") last summer by happenstance, at a time when I darn well needed some kind of a job, as a local experienced man; that is, without regard to my "age or marital condition." In point of fact, I have a darn nice wife and two nice boys, and I'm getting bald. Though a rolling stone gathers no moss, it frequently gets a nice polish, and that is what qualified me as a local experienced man.

But my talents were such that I fell into one of those office jobs which the men on the outside think are so soft and which in actuality are confining, soul-wracking, nerve-torturing. I've never felt it necessary to back up to the payable; I know I've earned my money, several times over.

Naturally, as a result, I have had little opportunity for actual inspection of other camps and other companies; but I have talked with inspectors for both the Army, the National Park Service, and the U. S. Forest Service; with transfers, officials, ambulance drivers, visitors, and salesmen who have seen many camps; and I think I am as competent as any other reporter to discuss the Civilian Conservation Corps and its relation to the country and to its members.

The big thing, the thing that most of the other reporters have barely touched, is the literal building of men out of boys who have never had a chance to grow up.

When I say they have never had a chance to grow up I mean exactly that.

I wish you could see the new enrollees as I see them, when they roll into camp the first day, scared, unhappy, yet anticipatory.

If you could see them then, and then see them three months later more or less on parade for you as a visitor, knowing how they looked on that first night, you would be as amazed as I am, each time, at the soul heartening changes in every batch.

When I walked into the camp at Bottle Creek (that's near Encampment, Wyo., in the Medicine Bow National Forest, right up against the divide) that first day, I just about turned around and went back again; thought it would be better to buck the uncertainties of placer mining again than to be considered one of those "tree soldiers." They didn't walk; they slouched. They didn't stand; they slumped. They didn't work; they just went through a few slow motions.

Only a month later the change was startling; that dollar-a-day walk had turned into a stride; those heavy cracker faces were alert and alight with intelligence and willing effort; the work was developing a swing and rhythm which, if not yet really professional, was at least workmanlike. The bums and goldbricks who couldn't take it had dropped out or had been kicked out. The kids were beginning to realize that there is as much honest pleasure and a lot more pride in doing an honest day's work than there is in hanging around a small town drug store living on papas, smoking marihuana, drinking rotgut liquor, and trying to make the town belles and bags.

That one thing has been the greatest psychological experience of my life. I can get absolutely maudlin on the subject.

It so happened that my company was enrolled chiefly from the State of Oklahoma, with the local experienced quota filled from the country in which that first camp was located in Wyoming. At first the Wyoming men, no matter what their age, outclassed the Oklahoma boys in every respect: in discipline, in work, in intelligence, in energy, in physical condition.

Ours was a conglomerate company, made up of odd lots from various county quotas. There were city toughs from Tulsa and Oklahoma City, small town bullies; a few, so very few of the juniors, who already showed the good stuff in them.

They hadn't had a chance. Some of them came from once well-to-do families who didn't bring their sons up to be roughneck workers. Those kids were just getting out of high school when the bottom fell out of the world and dropped them down on hard ground with an awful thump. There wasn't a thing to do, so they loafed.

Others had been poor all their lives, but had always managed to get a few odd jobs. Then the same bottom fell out of the same world and they loafed.

Some were natural born loafers, and they had just kept on loafing.

You could watch the idea of there being such a thing as pleasure in work sneak up on those kids and slap them in the face. At first all the boasting was of how they had managed to dodge some duty. Then, slowly but perceptibly, the boasting changed. It was how much work had been done that day; how "by God, that guy may be from Wyoming, but I got at least eight more trees chopped down than he did."

That's what sounded good.

At first all the rated men were from the Wyoming LEM. (Rated men are the enrolled pushers: leaders, \$45 a month; assistant leaders, \$36; and they earn it, bossing the work crews during the day and the barracks at night.) As I remember it, of 16 assistant leaders and ten leaders, 6 assistants and 2 leaders were from the Oklahoma juniors.

But the older men couldn't take it as well as the kids. As the boys grew and matured, it was they who were given whatever ratings were open. They got the specialized jobs. They were, in short, growing up to their jobs; the older men were not. Part of it, of course, among the older men, who had been around too much, was a feeling that CCC work is childish and not worth the honest effort. The juniors (those whose enrollments are confined to single men between 18 and 25) had no such cynical illusions. Once they woke up to the

fact that one of the proud accomplishments of a man is doing honest work well, they buckled in. ***

It's never yet seen a man hurt by the CCC; I've seen mighty few that weren't immensely benefited.

Naturally, the supervisory force and the Army officers in charge of the camps make a lot of difference. I've seen them unusually competent, unusually incompetent; but I've seen only one who didn't try, and he didn't last long.

It's been a great experience for me; it's taught me more about the good side of human nature than 15 years of itinerant reporting.

(To be continued in next issue)

OTHER TYPES OF LEADERSHIP

By C. A. Fawcett, R. 4

(Excerpts from the R-4 discussion on "Leadership")

The principal types of non-creative leadership are:

1. Dictatorial
2. Militaristic
3. Emotional
 - (a) Religious
 - (b) Political
 - (c) Personal magnetism

These are used today and typical examples may be found in every country in the world. These leaders have some of the qualifications of a Creative leader, but are motivated by a desire for personal power rather than by a desire to better the group.

This type of leadership is not suited to today because: These leaders were and are, to a large degree, dependent on ignorance for success. In this country today, our methods of communication of news and our general education are developed to such an extent that the public knows and is interested in what goes on all over the country as well as in his own business. The man in the street is asking why? Therefore, it takes a more humane and intellectual type of leadership to gather a following.

MICE AND MEN (COMMENTS)

By George M. Hunt, Forest Products Laboratory

The article on "Mice and Men" in the February 18 Service Bulletin leads me to wonder whether anyone has ever tried to develop individual seed containers or pockets made of wire screen, sheet metal, or some other material that would resist the attacks of rodents and yet permit access of moisture to the seeds, permit the sprout and roots to emerge, and that would rust away soon enough to avoid interfering with the growth of the tree. Perhaps the scheme has been tried and found unworkable. If it has not been tried I should think it would be worth while to scout its possibilities by a few preliminary experiments. I refer to small containers that could be stamped out by machinery and filled at some central "filling station," using 2 or 3 seeds. I do not mean covering a seed spot in the field with a screen protector, which I understand has been tried.

If the scheme cannot be made to work there is little use to talk about its advantages but if, for the moment, we assume that it will work, the following advantages appear possible:

1. The necessity of growing and transporting nursery stock would be avoided for plantings where this scheme could be used.
 2. Seed might possibly be planted during any part of the year when the ground is not frozen or covered with snow.
 3. The seed could be placed in the individual containers and shipped to planting areas during the winter or any other time when other work is slack.
 4. The planting tool could be a lightweight, chisel-shaped instrument, that would not burden the planter.
 5. There is the possibility (perhaps faint) of finding a moisture-attracting material that could safely be placed in the container with the seed, as well as a slowly available fertilizer, to tide the young tree over its first year or two.
 6. The depth of planting could be controlled very easily by the make-up of the container and the design of the planting tool. A magazine type of tool might possibly be used.
 7. Planting could be done in prepared or unprepared soil as might be desired.
- The cost may prove to be one of the chief disadvantages but by selection of materials, design, and the use of suitable machinery it should be possible to make the cost per container quite low.

IMPROVED METHODS ASSURE SOUTH'S WORLD LEADERSHIP IN NAVAL STORES

A chance for the South to maintain its world leadership in naval stores production, an industry now employing 50,000 people and having an annual output worth some \$50,000,000 is seen by Dr. Eloise Gerry of the Forest Products Laboratory, in the application of improved methods developed by scientific research.

It was predicted that, when the virgin southern pine forests were cut, the naval stores industry would practically vanish and consequently the United States would lose the foremost place it previously held by virtue of the South's production of turpentine and rosin. Now, however, improved practices applicable to the young fast-growing southern pine forests, which are a potential and renewable natural resource of tremendous value, make possible the maintenance and even further development of naval store production, according to Dr. Gerry. Early and sustained profits are already being obtained from more than 100,000,000 longleaf and slash pine trees now being tapped annually in this unique and picturesque industry that flourishes in the "turpentine woods" of the Southeast.

Dr. Gerry is the correlating editor and compiler of a new naval stores handbook, (Miscellaneous Publication No. 209), just published by the Forest Service, and giving the latest results of scientific research and a comprehensive statement of the best naval stores practices in current use in the forest. Naval stores - turpentine and rosin - are used in a multitude of products such as paints, varnish, paper size, soap, linoleum, ink, grease, and synthetic camphor which finds its way into the modern automobile in the form of non-shatter glass.

Slash and longleaf pines are practically the only species tapped for gum, or oleoresin, which is distilled to yield the turpentine and rosin of commerce. These trees grow from the Carolinas to Texas over an area that embraces one-fourth of the forested land of the United States. Georgia and Florida are the chief centers of production at present. The United States now produces over 60 percent of the world's naval stores. Next in importance comes France, which produces about one-third as much. Spain, Portugal, Mexico, Greece, British India, and recently Russia produce naval stores in lesser amounts from various species of pines.

KEEPING PRIMITIVE AREAS SECLUDED

By J. A. Nash-Boulden, Santa Barbara

Several primitive or isolated areas have been set aside during the past few years, and now with the increased demand for the type of recreation these areas afford I am wondering if we should not consider ways and means of assuring that these areas will provide the seclusion one expects to find in such places.

As the use of these areas increases, or more particularly if the use becomes such that more than one person or party finds it necessary to camp or stop overnight with others, the primitive or isolation value will be considerably lessened. Should we not plan and decide the number of stopping places available within these areas, then provide simple ways to all such places so laid out that as far as possible such ways will go to the individual place, but not pass immediately adjacent to or through other places that may be in use by others.

Having done this, then should we, if the use demands, allow only the number of parties or persons into the area that can be provided with such isolated stopping places; possibly if the demand is too great, restrict the time allowed in the area.

Unless some such scheme is put into effect the area cannot provide what is wanted by individuals desiring this type of recreation. Another point to consider is the protection to all game or wild life, including predatory animals, for without all these, these areas would cease to provide the conditions sought.

SOIL LOSSES BY INDUCED EROSION

Although all the data that were obtained with the portable erosion apparatus on the Boise River watershed last year have not yet been completely analyzed, the analysis of one portion of the data has been carried far enough to show the extent to which nitrogen, and organic and colloidal material can be leached from granitic soils by surficial run-off. The following table based on soil samples taken from plots and from eroded silt in connection with 96 measurements of run-off and erosion induced by artificial rainstorms, is self-explanatory:

	Soil Samples (0 - 1/2 inch)		Eroded
	Before rain	After rain	Silt
	Percent	Percent	Percent
Total nitrogen	.172	.114	.277
Organic matter	3.68	3.03	6.46
Colloids	11.7	11.0	18.4

According to Fishers "T" test, all values in the table are significant. Although the absolute reduction in the amount of these essential elements in the soil is small, the relative amounts removed in the silt in each case exceeds 200 percent with respect to nitrogen and organic matter, and nearly this much for colloids, thus indicating a high differential loss by erosion of the most valuable soil fraction. - Intermountain Forest and Range Experiment Station.

YE EDITOR DISCOVERS

The Forester will give, on April 26 during the National Farm and Home Hour, the first of seven radio addresses by members of the Forest Service on forestry and land-use planning. These talks will be part of a series by Government officials covering various phases of the Report of the National Resources Board. The Forester will speak on the subject: "Some Social Consequences of Forest Exploitation." Other talks so far scheduled are:

- May 3: "Forests Afford a Huge Work Reservoir," by C. M. Granger, Assistant Forester
- May 10: "Who Shall Own Our Forest Lands," by L. F. Kneipp, Assistant Forester
- May 17: "Forestry - A Private As Well As A Public Responsibility," by E. E. Carter, Assistant Forester

The following additional talks will be scheduled later on:

- "Forests Help Keep the Soil at Home," by W. R. Chapline, in Charge of Range Management Investigations
- "Forests, Wild Life, and Recreation," by C. E. Rachford, Assistant Forester
- "The Forest Farm Community," by Fred Morrell, Assistant Forester

Regional Foresters, Forest Experiment Station Directors, and Assistant Foresters will convene in Washington on April 10 for the second quarterly staff meeting in the series recently inaugurated by the Forester. A list of subjects for analysis and discussion has been prepared, including a wide range of items which for one reason or another are most urgently in need of consideration and action at the present time. It is possible that the final phase of estimating for work under the emergency relief appropriation may be under way during the time of the meeting; if so, Regional Foresters will be in a position to participate in the crucial early stages of securing allotments and policy formation, as was the case during the hectic days when ECW was being launched in the spring of 1933.

To unify all soil erosion control activities of the Federal Government, Secretary Wallace recently issued an order establishing a separate soil erosion unit in the Department of Agriculture. Carrying out the purposes of the Secretary's order, Under Secretary Tugwell at once undertook the task of consolidating the various departmental units working in this field.

The base of the new organization will be the Soil Erosion Service which has just been transferred to the Department of Agriculture from the Department of the Interior; this transfer was authorized by the Public Works Board at the request of the President.

All investigational, service, and control projects on erosion, heretofore handled by the Bureaus of Chemistry and Soils, Agricultural Engineering, and Plant Industry and the supervision of CCC erosion-control work now under the direction of the Forest Service is being transferred to the new unit.

H. H. Bennett will head the consolidated activities. Mr. Bennett has been in charge of the Soil Erosion Service since it was organized, and previously was in charge of soil erosion investigations of the Bureau of Chemistry and Soils.

The National Forest Reservation Commission approved purchase of over a quarter million acres of land for addition to the National Forests at a special meeting of the Commission on March 30. These approvals, in addition to approvals given March 25, bring the month's purchases up to nearly 1,000,000 acres and the purchase approvals in the last 22 months to approximately 8½ million acres. The Commission's action on March 30 practically completed the federal forest acquisitions to be made with the \$30,000,000 of ECW funds allotted by President Roosevelt in 1933 and 1934 for the purchase of lands for National Forest purposes.

as a relief measure.

Forest Service contributions for the 1935 Year Book were received in goodly number last summer and were almost without exception well adapted to the purpose. Space in the Year Book, however, was so limited that not all of the material submitted to the Department could be used. The articles which it was necessary to return to the Forest Service have real merit, and effective use of them will be made in other ways so that the work which went into their preparation will not be wasted.

The Year Book for 1936 will be devoted almost exclusively to reporting the progress thus far made in the study of genetics. In this respect it will be a departure from the previous editions, which have attempted to report, by means of feature articles, current progress in all lines of Agricultural endeavor. Secretary Wallace is deeply interested in the subject of genetics and last year appointed a committee composed of experts in the various Bureaus of the Department concerned with genetics problems, for the purpose of correlating and advancing research along that line. The Year Book for 1936 will report the work of this committee and, it is believed, will constitute an outstanding contribution to the literature in the field of genetics.

Largely as a result of the initiative shown by the Forest Service in its continued activity in the field of personnel management, the Graduate School of the Department of Agriculture is offering for the first time a special 10-week course in "Elements of Personnel Administration," to be held in the Department of Agriculture Auditorium Friday afternoons from 4:45 to 6:15 p.m., starting April 5. The course will be essentially a study of the management of personnel on the job, and the lectures will cover not only the theory and principles of the subject but actual techniques and methods developed through research and tested by experience in progressive organizations. A group of outstanding lecturers, each with a national reputation in some phase of the subject, has been secured. This group includes such men as Dr. Leonard D. White, Civil Service Commissioner; Dr. Herman Feldman, Professor of Industrial Relations, Dartmouth College; Dr. H. S. Person, Consultant in Business Economics and Management, New York City; Dr. Ordway Tead, noted author and lecturer in personnel administration at Columbia University; Dr. W. W. Stockberger, Director of Personnel, Department of Agriculture; Dr. W. J. Donald, Managing Director, National Electrical Manufacturers Association, New York City. Mr. Peter Keplinger, Forest Service, will act as chairman and A. C. Edwards, Bureau of Agricultural Economics, as coordinator of the course.

Editor Ray Hoyt of "Happy Days" has written an excellent little book entitled "We Can Take It" - a short story of the C. C. C. The volume is illustrated with drawings by Marshall Davis, former CCC enrollee. It presents in very readable form the history of the ECW program and the activities of the various Government agencies concerned with it. The book has been published by the American Book Company and is being sold at 25¢ in paper covers and 60¢ cloth bound. The Division of Information of the Forest Service cooperated with Mr. Hoyt in its preparation.

FOREST SURVEY TYPE MAPS

As a result of the Forest Survey project in Oregon and Washington the Pacific Northwest Forest Experiment Station now has in its files a complete set of hand-colored 1-inch-to-the-mile forest type maps for each of the 38 counties in the Douglas fir region of Oregon and Washington. This represents an area of about 35 million acres, of which 29 million acres is forest land. Similar map negatives have been completed and are now being colored for 13½ million acres in eastern Oregon and eastern Washington. This collection of type maps for over 48 million acres of land, all in one contiguous area, is not duplicated anywhere in the world.

In making these maps the Forest Survey has prepared all of the negatives so that type boundary lines and type symbols, including notations as to age and stocking of all immature stands, are an integral part of the negative, so that blue line prints may be sent to any agencies desiring them. The number of individuals and agencies in the Pacific Northwest who have purchased copies of these maps and have gone to great expense in having them colored is remarkable. State foresters, State tax commissions, county planning boards, lumber companies, and others have colored copies of these maps in their files. To get a notion of the scope of this project, when the Survey has finished the balance of eastern Oregon during the coming summer and all of the 1-inch-to-the-mile type maps are completed, if these were pasted together to make one large map for Oregon, a sheet over 25 feet high and 34 feet wide would result, and Washington would be only slightly smaller. - Pacific Northwest For. Expt. Sta.

EDUCATIONAL MOVIE PROGRAMS IN REGION 1

ECW showboat operators assigned to educational motion-picture campaigns in 1934, held 1,045 shows, of which over 500 were in Forest communities and more than 500 in camps of the Civilian Conservation Corps. The total attendance is estimated at 250,000 people. Twenty-four operators were employed at different periods, and fifteen were on the job at one time. On the basis of five-days weeks, four shows were held daily for every day in the year. The 1935 Forest and winter CCC camp programs are in full swing. Returns are very gratifying. - From R-1 Bulletin

-oOo-

The Province of Quebec has passed a law operative this summer that all measurements in the woods for timber dues are to be made in cubic feet.

-oOo-

The use of wood as an automobile fuel has recently been greatly developed in Germany as a result of her desire to become economically independent. In 1932, the Prussian Forest Administration had eight trucks using wood as a primary source of motive power. In Prussia, some 1000 wood-supplied cars, trucks and busses are now in operation and gas stations supply small-cut wood for them. The wood using cars are particularly in evidence where gasoline prices are high and wood abundant.



SERVICE BULLETIN

CONTENTS CONFIDENTIAL

WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES. IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT *** THE TIME HAS COME FOR A CHANGE. AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY *** TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES. WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER.

Theodore Roosevelt

Vol. XIX No. 9

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INSPECTION

By Howard Hopkins, R. 7

After years of experience, the lack of fully satisfactory inspection work in the Forest Service continues to be one of our greatest weaknesses. Is this because inspections are too "holy" to be analyzed, or is it because an inspection is considered so much a matter of personalities, of the inspector and/or the inspectee, that no one system should be established as the standard procedure?

In practically all Forest Service inspections there are two fundamental parts, (1) inspection of work done as compared to established standards, and (2) instruction of the inspectee to educate and inspire him to better accomplishment in the future. In general, the second is the more important of the two, although the first is a necessary part which in some cases must become of major importance.

The inspection of work to determine if it is satisfactory implies and necessitates that a standard has been established for each job inspected. That standard should be definitely stated and its definition similarly interpreted by both inspector and inspectee. The establishing and clear defining of a proper standard for each job is a vital part of inspection work, but it is often the weak link in our inspection system.

If the standard has been established, part one of the inspection job should be relatively simple. The report on this portion should consist of a very brief, impartial statement of the condition found on the ground, or in the files, for each job, as compared with the established standard condition for that job. A brief explanation as to why the job was not in standard condition should be made when deemed necessary. Part two, the educational or instructional portion of the inspection report, should be as brief and as specific as possible, but not limited to such extent that helpful, practical suggestions on how to plan the work most effectively, and how to accomplish the work most efficiently, are omitted.

Part one of the inspection should include a check, job by job, of existent conditions compared with the approved standard conditions; while part two should list, in the same relative order, recommendations as to how the inspectee may best place the unsatisfactory conditions in standard shape, with a specific list of recommended jobs to be done, administrative studies to be undertaken, short cuts to be utilized, or other action needed to facilitate the obtaining of the desired condition most efficiently. Part two should also include a brief explanation of changes in policies, practices, or standards determined to be needed, with specific statements of the facts justifying each change.

Under this procedure, the inspectee obtains a definite picture of what part of his job has met specifications; what part did not and why not, and, most important, he is given a definite prescription on how to handle each job in order to place and maintain it in satisfactory condition by the most efficient method. The inspector has established a definite record of conditions on the ground at the time of his inspection, has given the inspectee his specific constructive suggestions on "what to do, and how to do it", and presents to the reviewer of his report specific recommendations on the improved policies or standards that are needed. This report system should facilitate the next inspection of the area, when the former report can easily be checked, the failure to follow instructions recognized, and suitable measures taken, or the accomplishment of the recommended changes may be easily recognized and due credit given.

The Forest Service might well establish three primary objectives of each inspection job: (1) To determine, and notify the inspectee, what specific portions of each job are not up to standard condition. (2) To instruct and educate the inspectee as to how each job should be most efficiently brought into, and maintained in, a satisfactory condition. (3) To notify the reviewer of the inspector's report as to needed changes in policies, practices, or standards to handle more efficiently the development of the area and/or job inspected. The report should consist of concise statements of fact and of specific recommendations, with only such explanations as are essential to clearly present the facts concerning the objectives stated above.

Each inspector should keep in mind that the primary purpose of an inspection is to benefit the Forest Service and Forest area, through benefiting the man, or men, directly or indirectly inspected, and that specific constructive recommendations to that end are, on the average, of far greater value than the detecting and recording of the maximum number of errors, or possible imperfect conditions, which the inspector is able to locate.

DUST, SALT, AND SNOW MELTING

By Charles A. Connaughton, Intermountain For. & Range Expt. Sta.

Forest Ranger J. B. Hann of the Wasatch National Forest has reported a very interesting observation on the effect of dust storms originating on the alkaline deserts near the Great Salt Lake on snow melting in the Wasatch Mountains. During March this section in the Intermountain Region experienced several local dust storms owing to the dessication of the scanty vegetated deserts and some unusually high winds which crossed these areas. Apparently during a recent storm a great quantity of alkaline dust was raised from the desert lowlands and transported to the mountains nearby where it was deposited with a light fall of snow at elevation as high as 10,000 feet.

This admixture of snow and dust has covered the winter's accumulation of snow with a yellowish, salty blanket. The effect of this blanket on accelerating snow melting and spring run-off is readily realized when the power of heat absorption and salt content of the dust is considered. The far-reaching implication of this rather unusual circumstance is that the farming communities in the lowland valleys depend on a regulated stream flow from the mountain watersheds and if the period of snow melting is advanced even a few days, it may mean the difference between harvesting or losing an entire crop.

THIS C. C. C.

By Harold H. Buckles, formerly a member of Co. 857, Denison, Texas

(Continued from April 15 issue)

What is the CCC? Half the reporters and most of the Democratic publicity machines have been telling the answer to that, so I'll skip it.

What does it mean to the public besides taxes?

I have an answer to that. It means taking right around 325,000 families out of the glutted labor market and the congested direct relief organizations. It means teaching 300,000 kids how to work who hadn't had a chance to learn how before; teaching them how to be normal citizens of a modern industrial democracy, so-called; teaching them something of the value of money -- thousands and thousands of these boys hadn't seen \$25 for their families and \$5 for themselves every month in their lives; it's teaching them that there isn't any hard and fast dividing line between capital and labor, between the clerk and the mechanic, the reporter and the shoveler; it's teaching them how to take orders, how to work together for common good, how to meet their fellow men without having a battle.

Well, that seems to be getting emotional, too. Put it down somewhat largely as this: It's a success in human terms.

What does it mean to the enrollees? I've pretty well answered that: it means a chance to grow up, a chance to feed the family, to take care of the cows, pay the mortgage the cotton wouldn't pay, pay the corner grocery or Pa's speakeasy bill; it means a chance at normal living for a year at least; it means a chance to find out, for many of them, that they have unsuspected powers of leadership, judgment, and responsibility.

I'm 32 years old, and bald headed, and I've been around here and there; but it took a page one depression and the CCC to give me a chance to find out that I'm one of the best secretaries that ever escaped the correspondence schools; that I can turn out readable publicity and make the front page of hard-boiled dailies with it; that I can leave a letter half-finished while I go out and tell a work crew what to do and come back and finish the letter.

I thought I was just a good reporter, too restless to stay behind a typewriter all my life while there were people to see and places to go; I find that, all unsuspected, I've got stuff that's going to take me somewhere even this late in life. That's what the CCC means to me and to something like 20,000 others just like me, who had the chance to grow up, the chance these kids didn't have, and muffed it.

Does the CCC earn its way?

In dollars and cents, no. Even at a dollar a day, with board, room, and clothes, the same money could buy at least 25 percent more accomplished work in the open market, with only the same mechanical equipment, and possibly 50 percent more under high speed production methods.

But, even from a strictly cash judgment, the CCC is rapidly becoming more efficient. The waste and duplication that marked the first year are rapidly being eliminated; there is new speed to the settlement of urgent field problems, both for the Army and the technical services; the tempo has quickened, there is less wasted labor in the Army overhead. Some of the officers have realized already that "Emergency Conservation Work" means "Emergency Conservation WORK" and are beginning to give up their efforts to make it a sort of pandemonic CMTC camp.

From the human point of view, it's paid its way a thousand times. Of course, I start getting emotional over that again. There's a thrill in it to me, the thrill of discovering that being a member of Mark Twain's so-called human race is not altogether dis-

graceful. But the CCC has paid its way - that way. That 25 percent loss in efficiency is well wasted. Think of where it might have gone! Into war, for instance, to make corpses and cripples of those boys ... instead of men ...

What is the mental attitude of the men?

I'll answer that with another question: Do you know what normal means? That's the mental attitude. In any good healthy work camp manned by the CCC there isn't any distinct mental attitude. There's a lot of griping, belly-aching and hell-raising; but that's just as normal as eating fried chicken and ice cream. As long as the men are well-fed, and this year there are few of them that aren't (though in the beginning the CCC mess was really a mess in lots of camps, probably the majority), there's no grumbling that means a thing except that the boys are Americans.

As far as the bugaboo of communism, socialism, anarchism, IWWism, and all that blah is concerned, not over 2 percent of the enrollees know any more about what the terms even mean than the people who do most of the worrying about it. ***

Now to get back again to Mr. and Mrs. John Public and their thirst for enlightenment. They want to know if it will last. This is just a guess, maybe good, maybe poor. But I guess that the CCC will last as is until the next change in administration; that the next administration will maintain it in some slightly changed form; and that, 20 years from now, or 40 years from now, we shall have some sort of organization of this nature as a literal training ground for the unprepared youth of the nation, both from the submerged classes and from the ascendant classes; and that, in the long run, if there is such a thing as a genuine democracy, the CCC, whatever its form in the future, will be a real force toward bringing it about. Anyone want to guess with me?

I could tell you, and probably start a verbal warfare, that, in my observation, the supervisory staffs of the two technical services, the U. S. Forest Service and the National Park Service, have made more of their opportunities for giving the kids a good start than have the commissioned officers in charge of the camps, and have been on the whole more efficient, more tactful, more helpful, and far, far better liked; but on the other hand, I could tell you that the active and reserved commissioned officers have accomplished a stupendous and praiseworthy task in the enrollment, organization, feeding, clothing, and disciplining of the men who have passed like water through the mill of the organization.

It is not the fault of the officers if they have been inclined to insist on army-like camp routine to the detriment of the work projects; if they are so swamped with petty routine that they frequently fail to see the whole object; if they tend to confuse a work camp with a private training course for themselves and an opportunity for building up a beautiful efficiency record for future use. The Army judges results in a CCC camp as it would judge results in an army or militia camp, while the technical service judges the result in terms of work accomplished. There's a fundamental difference there.

I have spent some interesting hours discussing the probable trend of the administrative responsibility, and I still believe that eventually the technical services will have complete charge of the camps. If they do take them over in toto, the change will be more real than apparent. It should result in greater unification, slightly increased efficiency, some economy, considerably increased smoothness of operation.

Balanced against that potentiality of unification is the fact that the double responsibility makes for a continual double check; that, though much more impersonal and caste conscious in their methods, the commissioned officers also are very much more efficient and more conscientious in their personal relations with the men outside work hours, and that the present camp administration works with beautiful simplicity because it follows established lines. The officers are trained and educated to rule man units with machine-like precision, impersonal justice, and impartial firmness, and, on the whole, they succeed

admirably in an organization where they have almost none of the usual disciplinary powers to fall back on. They have commended respect automatically, because they expect it, with only the empty weapon of authority. I would be the last to deny that they have done a splendid job; I only feel that future developments are certain to find a tendency toward unification of responsibility and marked decrease of the military method. ***

Another benefit seldom mentioned publicly, perhaps from a sense of decent shame in which I am deficient, is the fact that most of the reserve officers and supervisory personnel called to duty for the organization needed the job as badly or worse than the boys they command. It's been a life-saver for many a genteel engineer, business man, salesman, or what have you, too proud to admit that he's broke, but lucky enough to have a friend in Congress or a commission in the reserve. ***

Until I started to write this I didn't realize how few things there are about the CCC with which an honest person who doesn't belong to an opposition party can find serious fault. I started this with the idea of blowing the top off the CCC just to hear the report; and when I looked closely I found out there wasn't any top to blow.

Here's how I feel: My enrollment expires October 1; and I'm pulling all the strings I can find to get to reenroll, not alone because I'll be without a job when I get out - I can turn petty racketeer to live - but because I really like my job; I'm proud to be a CCC; I like the boys I'm in here with; and it's not doing me any harm at all. In short, I like it.

MICE AND MEN (MORE COMMENTS)

By Lee P. Brown, R.6

Apropos of the article, "Mice and Men", in the February 18 Bulletin:

Supervisor Rankin tried harrowing in a cut-over area; Bear Creek unit, Pelican Bay Lumber Company, Crater National Forest, several years ago. He used a spring tooth harrow and a caterpillar, which happened to be in the vicinity on road maintenance work.

Sheep-grazing the area upset his exact calculations, but my recollection is that a decided increase was shown in germination and in the first year's survival. Seedlings did especially well, if I recall correctly, in the bottoms of the small furrows.

The harrow kept clogging with needles, twigs, and sticks. A harrow with teeth set wide apart on a large frame would, however, largely clear itself and the spacing could be such that the actual harrow lines or soil disturbance could be as close as desired. Small garden cultivator plow teeth could be used, although Rankin preferred the spring teeth because they would snap free from roots, etc.

YE EDITOR DISCOVERS

A Land Policy Committee was recently established within the Department by Secretary Wallace. The Committee is to consist of representatives of those agencies within the Department which have responsibilities relating to the acquisition of lands for any purpose, administration of public lands under the jurisdiction of the Department, and regulations and cooperative arrangements which affect the administration of private lands. It will pass on all projected policies affecting these matters and will review existing policies and working arrangements. Decisions of the Committee, subject to the approval of the Secretary, will be final with respect to departmental land policy.

M. L. Wilson, Assistant Secretary of Agriculture, is Chairman of the Committee. Other members are the heads of the following agencies: Forest Service, Biological Survey, Soil Erosion Service, Bureau of Chemistry and Soils, Bureau of Agricultural Engineering, Bureau of Plant Industry, Extension Service, Office of Experiment Stations, Bureau of Agricultural Economics, and the Program Planning Division, Agricultural Adjustment Administration. A representative of other agencies which may be set up within the Department or in association with it which affect land administration or acquisition will be added.

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A temporary enrollment of 1400 students in the CCC for the summer vacation period has been authorized by Director Fechner. These students will be selected from institutions giving major courses leading to degrees in forestry, agricultural engineering, agronomy, soils, irrigation engineering, landscape architecture, history, archeology, and majors in the natural sciences - botany, zoology, and geology.

By inter-departmental agreement, quotas are assigned as follows: To the Department of Agriculture, 1050 - divided between the Forest Service (770) and the Soil Erosion Service (280); to the Department of the Interior, 350 - divided as determined by their own officials, between the National Park Service (National and State Parks), the Division of Grazing Control, Bureau of Reclamation, and the General Land Office.

The student enrollment will be under the same terms and conditions as for regular CCC enrollees, except that arrangements will be made to enroll the students at the end of the college year and discharge them in time to reenter college in the fall.

The student must present himself to the Army by reporting at his own expense to a designated place of acceptance; from this point to camp the expense will be borne by the Government. To reduce personal and official expenses, students will normally be assigned to a camp in a State within which the college is located, or in which the student is residing at the time of enrollment, or to a nearby State. If a student prefers a camp in another more distant locality, he will be expected to pay his expenses to the place of acceptance designated by the Army, in the vicinity of the camp. In such cases the man will be entitled to Government transportation upon discharge to the place of acceptance only. Except in the case of students requesting special assignments, all students upon discharge from the CCC will be entitled to Government transportation to places of selection or to their homes if a shorter distance than to places of selection, or to points nearer to places of selection or their homes, provided the discharged member agrees to accept such transportation as a full and complete settlement of the Government's obligation to furnish transportation to places of selection or to their homes.

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Analysis of the appropriation estimates for the fiscal year 1937 shows that recommendations of Regional Foresters range from a low of 3½¢ per net acre in Region 4 to a high of 12¢ per net acre in Region 7. These estimates cover only what has been newly designated as the allotment for "field operating organization" which is the term to be used in place of the old designation "S & E Region" and covers only permanent personnel and regular guards, together with the incidental expenses such as travel, rent, etc. required by the activities of this permanent organization.

The average proposed cost per net acre for 1937 is 5½¢ as against 4.2¢ per net acre for the fiscal year 1936.

These estimated costs for field operating organization in 1937 are based on the assumption that Regions 7, 8 and 9 will during the next year and three quarters buy twice as much land as they have during the last year and three quarters. Additions to net area between July 1, 1933, and April 1, 1935 are as follows:

Region 7	1,025,000 acres
Region 8	3,300,000 "
Region 9	3,000,000 "

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One of the subjects for discussion at the recent Regional Foresters' meeting was, "Under what circumstances, if any, is it justifiable to deny a man an opportunity to accept a promotion which is dependent upon a transfer to another Region?"

The answer of the group was that there are no such circumstances. All administrative units are harassed and distracted because of the shortage of experienced personnel to handle the present and pending new loads of work, but the Service policy is that something can always be done to avoid holding a man on a job when he could better himself by accepting a more responsible position in some other unit.

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A finding of agriculture may be of value in forest nurseries when heat-injury at the surface of the ground is serious. In India, cotton plants injured by excessive surface temperatures were aided by a thin surface sprinkling of powdered chalk. The maximum surface temperatures were lowered by 27° F. and at 2 inches depth by 9° F.

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Director E. L. Demmon and Philip Wakeley, of the Southern Forest Experiment Station, have been elected President and Secretary, respectively, of the New Orleans Academy of Science.

PURPOSE OF LEADERSHIP

By M. W. Bird, R. 4

(Excerpts from the R-4 discussion on "Leadership")

The purpose of leadership is the ability to draw from a group of individuals, large or small, a willing, harmonious, whole-hearted working spirit. It has been found that this working spirit does not develop naturally within the group, but that it is maintained and developed only through proper exercise of leadership within the organization.

Confidence should be established between the leader and the group. Each individual should be made to feel that he has an essential part to play in the organization; that he is a link in the organization chain; that the responsibility is his to keep his link equally as strong as the other links within the group.

A fundamental purpose of leadership is the drawing forth or creating by the leader, with the group together, new aims, higher purposes, and greater objectives in an effort to make a more efficient organization. The leader should recognize that within each individual of the group lies a dormant possibility of leadership and the ideas and suggestions of the person should be considered as a means to bring about a more efficient individual as well as to bring about a more effective fulfillment of the desires of all.

Another purpose of leadership which is vital to a successful leader is being able to reach the plane of every person in his group, making the person feel at home in his presence. When a question or problem arises, he can go to his superior without fear or timidity and converse with him on common ground.

When a leader, who is attempting to establish a harmonious working spirit, creates confidence within the group, stimulating new ideas and objectives, being able to meet individual members of his organization on common ground, he is trying to lead in a fundamental way.

THE ANCIENTS AND FOREST FIRES

By John G. Kuenzel, Central States For. Expt. Sta.

Born at Rome in 99 B.C. and living 44 years, Titus Lucretius Carus was a contemporary of Cicero and Catullus and a student of Epicurus. His treatise "On the Nature of Things" is filled with some fine poetical passages and also much dry philosophical rambling.

Lucretius disagreed with Anaxagorus of Ionia, born in 500 B.C., who held that homomeria were the seeds of which the world was made, at first huddled together in chaos but later arranged in order by an Almighty, All Wise, Mind. We are presented with his argument from "Forest Conflagrations":

"But still,' you say, 'upon the mountain tops
The towering trees are often rubbed together
When strong south winds do blow, until a flame
Straight breaking out, they burst into a blaze,'

"Quite true: yet fire is not innate in wood;
But there are seeds of heat, which rubbed together
Thus makes the forest blaze.

"But if so great a blaze were hidden in the woods,
It could not be for long concealed,
'Twould make an end of woods, burn up the trees.

"Now don't you recognize
That as we said before it matters much
With what things and how placed
These primal germs are held in union."

It might be advanced that the ancients were decidedly observing in associating conflagrations with strong south winds or "foehns" which are similar to the chinook winds of the mountain areas of western North America.

Looking to their explanation of forest fires caused by swaying tree trunks, as Shakespeare would exclaim, "Aye, there's the rub that was a rub."

AGE NO BARRIER

By Emma H. Morton, R.6

The CCC's can take it, be they 18 or 62. Not to be outdone in educational accomplishments by his young associates or his grandchildren either, for that matter, John C. Harris, a Rosario CCC worker created a mild sensation recently when he walked into the county school superintendent's office and asked permission to take the eighth grade examination. He explained that he was forced to leave school to go to work after completing only the third grade and had been studying to complete the remaining five. The good news has come that Harris has passed with flying colors.



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Theodore Roosevelt

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FOREST FIRES AND ACCELERATED EROSION

By Charles A. Connaughton Intermountain For. and Range Expt. Sta.

The effect of fire on accelerated erosion is one of the most important phases of the fire damage problem in the ponderosa pine (*Pinus ponderosa*) forests of central Idaho. The extent to which fire may contribute to acceleration of erosion on forest lands of this type was partially determined in 1932 by means of a survey of a portion of a 45,000-acre fire area located on and near the Payette National Forest. This area had been burned over in late August 1931.

The fire damage survey was made on 3,390 acres of heavily cut-over and 4,700 acres of virgin forest land by means of the line-plot method of sampling. Data were obtained with respect to whether or not there was acceleration of erosion following the fire, the percent slope on which the erosion occurred, and the intensity of the burn on each of the 1,357 plots established on cut-over land and 1,880 plots on virgin forest land.

Accelerated erosion was found to have occurred on 42 percent of the plots established on cut-over land and 28 percent of the plots on virgin forest land irrespective of slope or intensity of the fire. In general, the more wide-spread occurrence of erosion on the cut-over area appeared to have been due to a combination of factors which increased the erosiveness of the soil. One of these factors was the loosening of the soil by trampling, the cut-over area having been more heavily grazed prior to the fire than the virgin timber area. Another important element which contributed to the loosening of the soil was the intensity of the fire near the surface of the ground. The cut-over area had a dense stand of undergrowth and a large quantity of debris on the ground resulting from logging operations during the 8 to 10 years preceding the fire, as compared to a moderate stand of undergrowth and no logging debris on the virgin timber area. This accumulation of fuel near the surface of the ground on the cut-over area permitted hot surface fires, which influenced the physical properties of the soil more than the less intense surface fires on the virgin timber area.

There is a decided increase in erosion with either increase in slope or increase in intensity of burn, except for a few slight irregularities in lower slope classes which are attributed to the small number of samples representing these conditions. This accelerated erosion is undoubtedly more or less temporary, pending reestablishment of herbaceous and woody vegetation. It is probable, however, that the same general relationships will continue to exist until a post-fire equilibrium of vegetation and soil is reached. If returned, conditions will probably become worse.

The lack of variation between the erosion in the two most intensively burned classes

on the cut-over area and the marked variation in these same classes on the virgin timber area present a point of interesting significance. On the virgin forest area severe surface fire, which is represented as second in intensity of burn only to that of a crown fire, consumed practically all of the lighter fuels on the forest floor including brush and reproduction. In addition, the heat created by a fire of this type was sufficient to kill the foliage on the larger trees, leaving it to dry out and ultimately to drop to the forest floor. Likewise, the severe surface fire consumed practically all the lighter fuels which were present on the forest floor on the cut-over area, but there was only a very scant overstory of larger trees to supply dead foliage after the fire. Both areas, therefore, were on a par immediately following the fire insofar as surface covering of vegetation was concerned. However, the foliage from the dead trees on the virgin timber area began to fall within a short time after the fire. Litter thus produced accumulated on the ground throughout the autumn and winter. By the time of spring run-off and the more or less torrential rains of the following summer, which caused most of the erosion, there was a fairly dense and uniform mat of litter covering the ground beneath and surrounding the dead tree crowns. This needlecast by dead trees furnished protection to the soil and accounts for the lesser erosion on the severe surface fire areas on the virgin timberland. On the cut-over land, such a needlecast was impossible owing to the lack of an overstory of dead trees, and the soil was no more protected on severely burned surface fire areas than on the crown fire areas. Consequently, there was little difference in erosion on areas burned over by a crown fire or by a severe surface fire on the cut-over land.

It may be possible that the coarse, loose granitic soil which is characteristic of the fire area somewhat emphasizes the effect of slope and intensity of fire on erosion. Regardless of this fact, however, it is apparent that forest land in regions of steep topography should be protected from fire, if only from the standpoint of watershed management.

THE NEW DEAL IN FOREST CAMPS

By F. W. Cleator, R. 6

"How far shall I go in 'dolling up' this campground?" is the big question nowadays in the ECW jobs. Some brains are going to be over-exercised during the next year or two with this problem in the development of our Forest Camps.

There is, in fact, a quite delicate balance in the production of a perfect campground. No two need be, or should be, twins; but they should show relationship in design. Great study will be required to have the finished product present an unstudied, non-artificial picture - the exact retreat which the traveller has been looking for.

It is my theory that every Forest Camp should at least have a bit of the primitive flavor left somewhere. Every large camp should have a real, noticeable share of wilderness, one or more parcels which are to all appearances just about as nature left them. In such wild spots, the log footbridge and a bit of Indian trail would work in, but not much else of human intervention.

When the family goes to the woods, the Mother will probably try to lead them to the most convenient stove; the nearest water, fuel, etc., that can be found; but the 12 year old boy is looking for a kind of "Daniel Boone" layout. The children generally win out, but sometimes their parents can work a shenanigan on them and make them believe they have what they want. Between them, anyhow, a compromise of one kind or another is made. Swimming and wading accommodations will satisfy about 95 percent. The more nicely we can provide for these varied requirements, the better satisfied will the public be: and that is our recreation business.

When one enters a Forest Camp he should have the feeling of interest and relaxation, the sense of serene forest beauty. If, however, when he walks about the campground, something, or many things, seem to stare at him, he feels there is something more or less imperfect about that camp. It is not good psychology to try to shock our visitors with a galaxy of man-made exhibits, such as a lot of purposely different tables or stoves all thrown together; or made-up bridges covered with so-called "gingerbread" or rustic "jewelry". Great, noble arches, etc., introducing one to an insignificant feature, are out of place. Of course, the visitor may be greatly amused or even stimulated temporarily, and utter a few "Ahs" and "Ohs" and "Grands", as might a sight-seer at a museum or a circus.

Our safest bet is to make our camps, first, useful, and, second, unpretentious. Nature will largely take care of the beauty if the human with the ax is not too perverse. By more or less time-consuming study, qualified men can find ways of making nature's beauty more accessible, more unsable, without a showing of disturbance; but when the average self-appointed expert tries to outdo the Creator and make his improvements more noticeable or more prodigious than the natural setting, a crime has been committed.

Well, we will have some very good times building our camps; and we can't all expect to figure things out the same. In our shades of difference in opinion will lie part of the success of our public camps and recreational accomplishments. After all, we surely don't want to use the "cookie-cutter" system; but our camps must, nevertheless, be the expression of the Forester and Landscape Engineer, not the production of the circus clown or the toy maker.

Our developments are reaching a stage that makes it necessary for us to have graphic plats or maps of the campground, representing the perfection of planning, current conditions, and the gradual evolution to a perfect unit. These not only exhibit our work, but also provide a common meeting ground for the minds of those who are cooperating in the developments.

FINANCIAL ASPECTS, OR WHAT'S IN THE POT?

By E. N. Munns, Washington

Foresters must do things cheaply. This slogan for the past quarter century has been so dinned into our consciousness that we are as tight as any gang that ever came from Scotland. We build cheap roads and trails, then rebuild them: we proudly build cheap houses that do not advertise well our government; we think in terms of cheap fire protection and wonder at large fires; we erect cheap fences and then fuss when the stock gets through. Worst of all, we plant cheaply and then, should we be greeted with a fair measure of success, we get a cheap stand which if it lives will produce cheap, knotty lumber.

Money is scarce. Forestry must pay compound interest. Returns must justify the cost. How much American forestry has suffered from such policies no one can tell. Maybe the old school was right in its time, but what was good training in its day is as out-of-date as a Model T.

One of the largest items entering into the cost of forestry measures is that of labor. Once scarce and too costly to use, labor is available in quantities. Instead of avoiding the use of labor, we find labor now chasing us. Can we not use more and show good returns for its use? Planting is one way.

At present, planting is crowded into a few harried weeks when conditions and plant stock are just right. Why not extend the planting season longer, get just as good success

as at present, and employ more labor. It can be done, not everywhere perhaps, but it can be done on thousands of acres of denuded, submarginal, eroding lands, and possibly also, in that much talked-of shelterbelt zone.

Pot planting might do the trick. Not planting in flower pots, of course, but in felted tar-paper pots. Those about 2 inches square and about 8 or 10 inches deep might be adequate for most of our smaller sized stock. (Pots come in a wide variety of sizes). True pot planting costs more. There are such items as the cost of the pot, the containers in which to carry them, the extra cost of weeding, the extra nursery area needed, and the extra cost of handling, and that of transportation both to the planting site and to the spot where the tree is planted. But on the other side of the story we can use more labor and we can have a six-months' planting season. The stock can be out-planted at almost any time (in the East particularly). We can give the tree moist soil about undisturbed roots to enable it to hold over (a real advantage perhaps in severely eroding sites and in the shelterbelt); we possibly could use smaller sized stock; we possibly could treat the potted soil so as to discourage white grubs if the pot itself did not do so. Conceivably we might, even before taking the tree from the nursery, give the soil a dose of high-life that will make the tree grow faster and better. Under some circumstances, we might plant germinating seedlings in place of seed-spotting and so avoid bird and mice damage.

There are a whole raft of such things we might do, but we don't. One reason? Foresters must do things cheaply!

DIRECT SEEDING OF SLASH PINE

By W. R. Mattoon, Washington

Back in 1912 the Forest Service made a real attempt to learn by experimentation how to reforest cut-over pine lands in the Southern coastal plain. The method was by direct seeding. Previous general observation was that when longleaf pine stands were cut-over, although seed-trees were left in fair abundance, new stands as a rule did not appear. The experiments were carried on near Summerville, S. C., mostly by the writer, at a State Agricultural Experiment Station located on typical flat woods, "crayfish" land.

The findings essentially were, first, that if afforded protection from fire such cut-over land often soon became stocked with natural stands of loblolly or slash pines, and if given additional protection from "razor-back" hogs longleaf pines came along in good admixtures. As to the results of direct seeding, they have been generally unsatisfactory except in the case of slash pine. The other seedings included longleaf, loblolly, and short-leaf pines.

Munns' article in the February 18 Bulletin on "Mice and Men" is timely and should serve to bring out considerable information now in hiding in regard to direct seeding for reproducing forest stands.

Successive seedings of slash pine were made and each carried on in systematic fashion, by seed-spotting in grass sod and in plowed furrows and by broadcasting in grass and on well plowed and harrowed land. The last method gave the best results, as would be expected, but was altogether too expensive. The results of all seedings were good. The stand was particularly favorable from broadcasting in one-year-old "rough" (grass). The small seed reached the soil (mineral or organic) and the grass blades seemed to provide a favorable nurse for the seed and young seedlings. Comparative fall and spring sowings by the above methods were established.

The big point I wish to make here is the outstanding success that has been obtained from many sowings of slash pine on low land throughout the South, including 5 different

sowings at the above South Carolina experiment station, other sowings at various points in southern Georgia, a farmer's 5-acre seed spot sowing in furrows near Georgetown, S. C., a similar sowing of some acres by the Great Southern Lumber Company at Bogalusa, and sowings by the Forest Service on Santa Rose Island, Choctawatchee National Forest. The slash pine seed is relatively very vigorous and has been almost "sure fire" in germination. Also the average time for germination after sowing in mid-fall or spring has been 7 to 15 days. The resulting stands have practically all long needed a thinning, and this is likely always to be passed up by the landowners in the press of other matters. Here lies one objection to seeding, since unthinned groups become stagnated, and from the human side leave an unfavorable impression.

The best results from slash pine have come from fall sowing, as soon as possible after the seed could be collected, cleaned, and shipped. This is nature's way, for slash pine seed germinates in the fall and produces seedlings that are astonishingly hardy to frost over winter. Longleaf seed has the same characteristics. With low-priced labor in the South and easy-working soil, the even regular stands established by planting nursery-grown trees easily outweigh, in the mind of the average landowner, the merits of the cheaper but irregular stands resulting from seeding.

The conclusion which these various seeding experiments point out is that good results may be expected from fall or early spring sowing of good slash pine seed on low or wet lands but not on dry or deep sandy ridges. If there is a fair grass cover the seed may be broadcast and preferably run over with a brush or spike tooth harrow. If the surface is of hard mineral soil it should first be disked or furrowed in preparation for the seeding.

DUTIES OF A LEADER "CRITIC"

By Ethel Nicholas, R. 4

(Excerpts from the R-4 discussion on "Leadership")

Since the end in view is to change the way in which the worker is acting or thinking, the criticism should be constructive. The critic should know exactly what is wrong and should give very definite instructions as to how to do those particular things right. New and better methods should be suggested.

Besides being constructive, criticism should be fair. The successful leader rises above personal dislikes, prejudices, and resentments. The attitude and manner of the superior officer should be that of fair-dealing.

Criticism should also be clear in meaning.

The manner in which criticism is conveyed is a very important one. It should be given in a definite and positive manner, and as tactfully as possible, thus avoiding antagonism. A reprimand is likely to leave the worker disgruntled or wounded in his self-respect. The critic should keep his own temper and exercise self-control. Any sarcasm should not be resorted to.

Criticism should not be accompanied by any bawling-out. Bawling-out a subordinate is usually a very bad practice. Any faults or criticism of a personal nature should be given in private. Personally, I don't think anyone should ever be humiliated before his or her associates. The superior officer who considers the feelings of his subordinates gets the best results.

The tone of voice which the superior uses makes the world of difference. The voice is the index of one's feeling and state of mind. Therefore, how to manage the voice is especially important in all talk with subordinates.

YE EDITOR DISCOVERS

According to information given the Forest Service by the Educational Director of the CCC, over 70,000 men and boys are availing themselves of opportunities to study forestry and erosion control. Enrollment in forestry classes and discussion groups reached 17,557 by March 1. Another group, numbering 16,897, attended lectures on forestry and fire control. Over 23,000 were receiving forestry instructions on the job, and 12,799 were studying soil erosion control, in class, lecture, or field. Courses ranged from general forestry to tree disease and pest control, cruising, silviculture, thinning, pruning, and logging engineering.

The average schooling of these men before entering the CCC was 6.7 years. More than half had high school courses and over 3 percent had gone to college. Thousands were well prepared for forestry study and have shown great capability in adapting themselves to life in the forests. Quite a few of them expect, when their CCC enrollment is over, to enter forestry schools and become professional foresters.

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A thirty-mile range in the rugged Cabinet Mountains of northwestern Montana has been designated as a Primitive Area by the Forester. This area, a part of the Cabinet and Kootenai National Forests, is to be known as the Cabinet Mountains Primitive Area. It is of outstanding wilderness character and scenic grandeur and so far has been visited by relatively few people. Most of the timber in the tract is of subalpine type, and the rugged terrain makes excellent summer range for wild game, including black and grizzly bear, deer, elk, mountain sheep and goats. As the average altitude is over one mile, and some of the peaks 9,000 feet high, much of the game is compelled to migrate to lower levels in winter. The numerous mountain streams flowing into the Clark Fork of the Columbia and the Kootenai Rivers are well stocked with fish.

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Visitors to the Forest Products Laboratory during 1934 numbered 4567. This is not far below the total of 5200 who converged on the Laboratory in 1933, the first full year of operation in its new building.

Peak month for visitors in 1933 was August, when 918 arrived. The 1934 maximum, 748, was recorded in October. During the last fiscal year 45 States and 12 foreign countries were represented. A guide staff is in attendance to insure a satisfactory tour of the Laboratory.

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The 50th anniversary of the Forest Commission of New York State, forerunner of the present Conservation Department, will be officially inaugurated on May 15 with a dinner at the Ten Eyck Hotel in Albany. Lithgow Osborne, State Conservation Commissioner, will be toastmaster and the speakers will be: Gifford Pinchot, former Governor of Pennsylvania; Robert Moses, Chairman of the State Council of Parks and Park Commissioner of the City of New York; Henry S. Graves, Dean of the Yale Forestry School, and Rexford G. Tugwell, U. S. Under Secretary of Agriculture. Henry Morgenthau, Jr., former State Conservation Commis-

sioner and now Secretary of the U. S. Treasury, has sent word that he will attend but asked to be excused from the speakers' list. The large dining room of the Ten Eyck will be converted into veritable forest for the occasion by the Palisades Interstate Park Commission, since forestry is such a large and important part of the State's conservation program.

On May 15, 1885, Governor David B. Hill signed a bill creating the Forest Commission of New York State. Governor Herbert H. Lehman recently named a committee of 100 outstanding conservationists to cooperate with Commissioner Osborne in celebrating this anniversary. In addition to the dinner, many other events are scheduled for the spring and summer.

AGRICULTURAL LAND USE SURVEY TO BE MOST COMPREHENSIVE EVER UNDERTAKEN

By E. A. Foster, Washington

Forest officers will be interested to learn of the plans of the Secretary's office to conduct a land-use survey for the entire country very similar to that undertaken by the Forest Service in August and September of last year. Mr. H. R. Tolley, Chairman of a special committee in charge of the project, addressed the assembled Regional Foresters and Experiment Station Directors on April 11 describing the plan.

It will be recalled that the original plan of the Form LUP #1 study in the summer of 1934 provided for agricultural agencies to report statistically upon the farm land within the areas reported upon by the Forest Service, and upon all land in the balance of the country. This plan was not carried out, with the result that the only part of the survey completed was that undertaken by the Forest Service. It covered about half of the total land area and 80 percent of the forest area of the U. S.

The new study has a dual objective: (1) to determine the uses to which the land in each farming area can most advantageously be put from the standpoint of the best land management and of well balanced farm units; (2) to determine whether the production of agricultural crops under such an ideal land-use program would be adequate to meet the estimated requirements. Instead of reporting by political units as was done in the Forest Service study the country is being divided on the basis of Census data into so-called "Types of Farming Areas". There are 13 regionalized major types which are broken down into 95 sub-regional types, which in turn are broken down into over 700 minor types.

On one side of the balance sheet the agricultural economists already have figures for the estimated needs for agricultural products. When summarized the new survey will fill the other side of the sheet with figures for potential production under farm management and an ideal land-use set-up. If the two sides of the book are unsatisfactorily balanced, adjustment will be made in the land-use recommendations until a satisfactory balance is struck. Then the detailed recommendations for each individual farming area will be followed out in putting the program into effect for the combined objectives of production control and the correction of faulty land use in each area.

The survey is to be conducted cooperatively by experiment stations, agricultural colleges, extension agencies, and others under the leadership of the U. S. Department of Agriculture. Mr. Tolley stated that the men directly responsible for this work expected to lean heavily upon the knowledge and judgment of local Forest Officers for certain types of information and recommendations. He stated that this would be particularly true in the West where open range plays such an important part in the land-use picture.

There has been no opportunity as yet to review the forms on which the data and recommendations will be compiled, nor to determine the extent to which forest lands will enter into the survey, nor the extent to which the data collected by the Forest Service last summer may be utilized in the study.

KEEPING WELL INFORMED

By Helen Moore, Washington

Wherever timber exists in commercial quantities, selective timber management offers a starting point and an easy approach to forest management. The interest which this problem has aroused is proved by the number of articles and books that have lately been written on this topic. To read them all is positively out of the question for the Forest Service officer who is already immersed in the trials, hazards, and tribulations of a busy summer season. The easiest and quickest way to know what has been said is to check the two new bibliographies:

SELECTIVE LOGGING IN THE UNITED STATES: AN ANNOTATED BIBLIOGRAPHY. Pt. 1- Cost of logging small sized trees and logs. Pt. 2- Logging methods under selective logging. Pt. 3- Relation to forestry practices; dated Jan. 1935, Compiled by William Mitchell of the W. O. under the direction of E. N. Munns. The annotations are concise, comprehensive and "full of meat".

SELECTIVE TIMBER MANAGEMENT WITH SPECIAL REFERENCE TO THE PACIFIC NORTHWEST: A PARTIAL LIST OF REFERENCES, dated April 1, 1935, has been prepared by the Pacific Northwest Forest Experiment Station. In this list are starred the items which Mr. Mitchell has annotated in his bibliography.

Our own men not only ACT, they DO and WRITE. What they have written is listed in a COMPLETE LIST OF FOREST SERVICE PUBLICATIONS revised Feb. 1, 1935 by the Forest Service Library. It includes local Region and Station publications, Journal of Agricultural Research articles written by Forest Service men, Yearbook separates, unnumbered publications, etc. Reports appearing in series over a number of years have been entered by year with the bulletin number of the series in which it appears. The availability of the publications is noted with information as to where they may be obtained.

EARLY FIRE

"From our windows we discover, though above 7 miles distant, the light of a conflagration in the woods, which has already lasted 8 days. (Along the Hudson River, N. Y.) Such accidents are very frequent in the clearing of lands by the aid of fire. The slightest inattention suffers the blaze to spread beyond the intended bounds; in which case it is impossible to extinguish it, especially at this time when the drought and the falling of the leaves furnish it with the means of rapidly extending its ravages. It also frequently happens that conflagrations are caused in the woods by the hunters, who, for the purpose of more certainly killing the deer, surround with fire the places where they suppose them to be. Some of these lines of fire are several miles in circumference: their breadth is inconsiderable; for however narrow they may be, the deer never cross them. The hunters generally adopt the necessary precautions to prevent the flame from communicating; but sometimes those precautions are neglected; sometimes also, although they have been observed, a sudden wind spreads the fire, which often consumes the entire inclosure, and even great tracts beyond its bounds, involving in the conflagration all the settlements and houses it meets in its way, and thus reducing many familiar to ruin." - Duke de la Rochefoucault Liancourt, 1796.



SERVICE BULLETIN

CONTENT'S CONFIDENTIAL

WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES. IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT ***THE TIME HAS COME FOR A CHANGE. AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY *** TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES. WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER

Theodore Roosevelt

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EDUCATING THE CCC

By William Nelson, R. 5

Since the inception of the Civilian Conservation Corps, many articles on different phases of the work have appeared in every type of publication from "Happy Days", the CCC newspaper, to the foresters' publication, "The Journal of Forestry."

The viewpoint presented has been from a variety of sources and sections by authors concerned with boosting its benefits or decrying its faults. On the one hand, we have numerous testimonials of the physical and moral rehabilitation of individuals, their acquisition of new concepts, and their release from the grinding heel of depression. On the other extreme, we have critics expounding their views on what could be done if they were in control.

Consider the original proclamation, the birth organ of the Corps. Regard it as you would the Constitution of the United States. Study it and you will find that it is a wise document, promulgated in an emergency to accomplish certain objects and effectively delegating the responsibility necessary to accomplish the ends in view. There is nothing wrong with it as it stands, and I think everyone will agree that the experiment, from the public standpoint, has been a success.

One target for criticism that I should like to discuss is the educational work being carried on as a subsidiary activity of each camp. This is probably the main object of criticism by those who are really competent to judge. Superficially, it would seem that this part of the program should be the easiest to consummate. Adequate organization and facilities were set up and the men were given unusual opportunities to obtain what was thought would be best for them. The fact remains, however, that this work has not obtained the success that was originally intended. The men were offered a type of education which their own experience had already led them to believe was a failure, and their apathy toward it is not at all remarkable. You cannot expect a man with high school, or even college, training, to be receptive to "The Appreciation of English Literature" when he has already gone through the experience of tramping the streets in bitter despair trying to obtain work from people who would not employ him in any capacity.

It should not be overlooked that real education is already being supplied to the enrollees by the two agencies with which they come in the most intimate contact - the Army and the Work Agency. The Army offers the men the opportunity to live clean, respectable lives, with sufficient clothes and facilities for the bodily comfort they had not previously enjoyed. The work agency gives the men the chance to learn how to use the tools at their command and what to do with them. Together, these two agencies afford the men an opportunity to emerge from the backwash of dirt and despair, into which they have been plunged, to a life of clean and regulated living and constructive effort.

Isn't this the true educational solution? Are not we, as foresters vitally interested in the conservation work accomplished, also serving in the role of educators? Doesn't every man, upon analysis, feel that the real education is actually there and not in the bewildered groping of the Educational Advisers, so confused by details and non-essentials that they cannot see the forest because of the trees?

We, as foresters primarily concerned with the work projects, are performing an educational function which we should realize. It is true that this phase of our work has been given little emphasis and that critical examination discloses much that can be done. Nevertheless, our responsibility to the men, to our profession, and to the nation dictates that we should consider educating the CCC as one of the major principles in our work and give it its proper place in the sun. It is our professional duty to cast a searching and discriminative eye over this organization and to do everything humanly possible to correct its faults as we see them. If we do not do this, we are likely to find ourselves, when the spring floods are over, lodged on the bank with other debris, while the main current of life sweeps merrily by

TRANSPLANTING OF TREES AND ORNAMENTAL SHRUBS

By F. C. Koziol, Wasatch

During October 1933, the grounds around the Forest Service office at Council, Idaho, were carefully laid out and planted with native trees and shrubs. The following notes will be of interest to those wishing to do landscaping with native material:

It is believed that October is the best month for transplanting in this particular region, because the ground usually has been moistened to some extent at least after the preceding dry months of the summer, and there is less danger of breaking up the ball of earth that is taken up with each tree, provided the right kind of soil conditions are selected in the first place. The fall of the year likewise is usually cooler, more humid with less danger of losses from excessive drying of exposed roots. At this time also, one can go almost anywhere into the hills, whereas the same desirable localities would not be accessible in spring until too late for satisfactory transplanting. Providing that one could negotiate the roads at that time, November or December would still be better for transplanting purposes. Frozen ground conditions would help materially, especially in handling the larger trees.

In selecting sites from which trees are to be transplanted, pick an area that is practically free of rocks, large or small. The rocks tend to break up the earth ball and also usually denote a poorer soil condition. Select an area that has a clay loam soil with plenty of moisture. This type of soil is a great aid in transplanting large trees with which a sizable earth ball is taken. Proper selections in this respect are very material in the successful transporting and subsequent survival of the trees. On the Council site the native conditions are not very good. The ground is a heavy lava clay which in wet weather becomes very impervious and exceedingly adhesive, while in dry summer months the surface becomes dissected with wide and deep cracks and the soil becomes very hard and unproductive. In order to overcome this naturally adverse condition, the holes that were dug to receive the trees were made much larger and deeper than necessary and the extra space was filled with good quantities of rich black soil and humus hauled from the forest. This is believed to have been a very important factor in the rather favorable survival of the planted trees.

There were planted a total of 24 trees - 10 engelmann spruce, 3 Douglas fir, and 11 ponderosa pine. The spruce averaged 9' 2" in height, the range being from 6' to 6" to 10' 6". The B. H. diameter varied from 3/4" to 1 1/4", the average being about 1 1/4".

The Douglas firs were all about 9' high and 1 1/2" in diameter.

The average height of the ponderosa pine trees was about 8' with an average diameter of $1\frac{1}{2}$ ".

Twelve months after the original planting, six of the 11 pine trees had died and one Douglas fir. No spruce had died. All the trees that had survived appeared as though they were out of danger and were well established. The current year height growth of the survivors ranged from 2" to 4".

The spruce, without a doubt, appears to be the most desirable and easiest species to transplant. Because of the constant watering of the lawn that is necessary during three dry months of the summer period, the ponderosa pine and the Douglas fir will possibly find the new site entirely too moist for their natural requirements. This condition, on the other hand, is ideal for the spruce.

This fall in filling up the vacant spaces some white fir and larch trees were used, more to determine whether these species would also adapt themselves to transplanting.

Also during this same work in 1933 a variety of native forest shrubs were transplanted. The species, numbers and survival are listed as follows:

<u>No. transplanted</u>	<u>Species</u>	<u>Survival</u>	<u>May die next season</u>
3	Rocky Mtn. Maple	All	None
11	Mountain Ash	"	"
11	Syringa	"	"
1	Birch (<u>B. subcordata</u>)	"	"
9	Ceanothus	5	4
18	Snowberry	All	None
6	Wild Rose	"	"
2	Elder Berry	1	1
12	Spiraea	10	4

The Ceanothus appears as distinctly unsuitable for transplanting.

All the transplanting stock was hauled a distance of from 6 to 18 miles. Three men with a truck were able to make one round trip a day. During a trip, three trees and a variety of shrubs were selected and dug. This output will give an idea as to relative speed and cost of the work. Because of the extra work that had to be done at the Council lot in digging deeper holes and hauling many loads of good soil for the trees, shrubs and lawn, the total cost of the work was higher than it would be elsewhere where better initial conditions existed. At least, it would be impossible to segregate the cost of transplanting from the other phases of the job.

The landscaping and planting work on the Council office grounds will, it is now certain, prove to be a success. The value from an esthetic and public standpoint will prove to be much worth while. The layout of buildings which otherwise would have been bleak, barren, and unattractive, now presents a picture pleasing to the eye. A proof of this statement is found in the fact that most visitors, local and outsiders, offer many complimentary remarks about the excellent appearance of the new establishment which has been added to the community. Where nature has not provided suitable conditions around Forest Service establishments it is certainly desirable to create such conditions by planting and landscaping work according to well designed plans.

LIGHTNING STORM FORECASTS

(The following extract from a recent memorandum by L. G. Gray of the Weather Bureau is in itself a forecast of future possibilities of the local forecasting of lightning storms. Does it indicate a forecaster for each group of three or four Forests? - E. W. Loveridge)

As an illustration of the nature of thunderstorm forecast localization in California the following experiences of the California unit seem appropriate:

On the morning of August 27, 1934, a telegraphic forecast of afternoon thunderstorms was sent to the Klamath National Forest among others. When the clouds began developing Mr. Hill, Assistant Supervisor, telephoned the writer at Redding for more detailed information. He was informed that the storms would center in the south-central and southeastern parts of the Forest, be accompanied by light rain, and probably cause a moderate number of fires. That evening, Mr. Fox, Acting Fire Dispatcher, called, reporting that substantially the conditions forecast had occurred, and requesting detailed information for that evening and the following day, the 28th, with special reference to his (Yreka) district. He was informed that the storms would continue during the early night hours of the 27th and again on the afternoon of the 28th, moving northerly, with storms centering mainly in the northcentral and northeastern parts of the Forest, probably accompanied by heavier rains than on the afternoon of the 27th, and cause some fires, which probably would present no special control difficulties because of accompanying precipitation. Mr. Gustavson, Fire Deputy, called on the evening of the 28th, making a statement that conditions had occurred substantially as predicted, and making inquiry concerning the 29th. He was told that the storm area would move off to the northeast and no longer affect the Klamath except for scattered cloudiness over the extreme east portion. This was verified, except that cloudiness was somewhat more extensive than anticipated. During several other threatening situations, the Klamath kept in touch with the forecasting unit at Redding, and later at Fresno, by telegraph, telephone and radio. The fire deputy expressed his appreciation of the general accuracy of the meteorological information furnished to him, not only for thunderstorm phenomena, but also for other data, and especially a forecast of increasing winds for the Atkins Creek fire area, which, according to his statement, led him to remove a crew from a sector shortly before it was made untenable by a wall of flame.

In 1933, to demonstrate the effectiveness of thunderstorm warnings when concentrated study was given to limited areas, special attention was paid to the Truckee ranger district, Tahoe Forest. All major-fire-causing storms were satisfactorily foreseen, accompanying precipitation was indicated for the most (e.g., a warning of "heavy" thunderstorms and locally "heavy" precipitation preceded an intense thunderstorm disturbance on July 31), approximate fire danger was indicated by the terms light, moderate and heavy, or safe, dangerous and very dangerous. The July 31 storm caused damage to the SP right of way and to the highways in the vicinity through "cloudburst" type of precipitation.

For several days prior to September 19, 1934, thunderstorms had been active in the southern and central Sierra, and forecasts had been supplied to the Forests located there. It was decided that the storms probably would not affect any area north of the Tahoe, and hence no forecast of thunderstorms was supplied to the Plumas (partly cloudy weather only indicated). Here is a radio message received by the unit of Redding from Peckinpugh, Fire Dispatcher: "Two storms one Moonlight country four fires over valley in traces of rain on southwest side of forest this AM showering lightly in storm area. Why didn't you keep the storm away? Anything new on this storm?" A reply was made to the effect that the storm was breaking up "tonight, no more Thursday." This illustrates the close touch that can be maintained by radio, and the prompt verification of forecasts, which is a genuine aid to the forecaster.

It has been rare that the fire weather unit gave advance warnings of thunderstorms for as short a period as 3 hours, and the average time is 12-15 hours, and on certain occasions warnings that verified well have been given as much as 48 hours in advance. The period varies with the situation.

Conclusions

1. Fairly satisfactory forecasts for 6 to 15 hours in advance of thunderstorms both of fire-causing and non-fire-causing types with approximately accompanying precipitation indicated have been made systematically since 1930 in Calif., for certain areas.

2. The tools required, aside from personnel and travel equipment, are a thorough analysis of thunderstorms in relation to lightning fires, adequate familiarity through travel of the forecast area, and expeditions radio phone communication with forest points.

3. The best means of localizing forecasts appears to be the mobile field forecasting unit, rather than a central forecaster. One such unit for each group of two to four National Forests seems indicated as the eventual solution of the problem.

ON "MICE AND MEN"

By Fred R. Johnson, R. 2

Mr. Munns' article in the February 18 issue of the Bulletin observes that direct seeding was not given a fair trial in the days of "Tama Jim" Wilson's command to scatter seed on all the old burns in the National Forests. Speaking from personal experience on several Forests in R-2 and from observations throughout the Region, I believe that an honest effort, based on study, and the use of every method that offered a chance, was tried out in order to make the project successful. Broadcasting, seed spotting, harrowing the ground, and raking in the seed, poisoning the rodents prior to sowing, careful tests of the seed, special treatment of the seed, etc., were tried.

By and large, the results were so poor that direct seeding was abandoned. There are some exceptions, such as lodgepole sown on fairly recent burns with good results, although doubtless these areas would have reseeded naturally within a reasonable time.

Successful seeding areas are, as a rule, very densely stocked and there have been no funds to thin them until the advent of the CCC. A successful ponderosa pine seed spot area on the Black Hills had from two to six under-sized, struggling seedlings in most spots, and some of the successful broadcast areas were as densely stocked as Nature, in her most lavish efforts, would have stocked them.

In the past some seedling areas were reported as failures, due to poor inspections or to the fact that they did not show up above the ground cover. Later these were discovered, as in the case of a lodgepole pine experimental broadcast area which was found some years ago on the San Juan Forest. It was outside the natural range of lodgepole and created quite a bit of interest until the old record of the seeding was located in the closed files.

In the April 15 Service Bulletin, George M. Hunt asks about seed containers to protect seed from rodents. Some years ago an effort was made to plant black walnuts direct on the planting site of the Wichita National Forest and Game Preserve. The result was unsuccessful, as the native red squirrels of the Forest followed the planters and dug up and removed every nut.

Thereupon it was decided to experiment with containers made of wire hardware cloth which were slightly larger than the nuts and completely enclosed them. Nuts enclosed in these wire cages were planted carefully at the proper depth and spacing. But, all in vain! The squirrels followed down the rows, dug the nuts, and although they could not eat them - they did not replant them. Most of the nuts were left exposed and, of course, did not germinate. Thus ended tests with direct seeding of large nuts or acorns on the Wichita.

TREES FOR TERPSICHOE

By Emma H. Morton, R. 6

Whenever we visualize the "spirit of spring" or groups of fairies they are always dancing among the trees. The most hardened materialist could never envision the dainty creatures tripping over a burned area or an eroded waste. Anyway, dancing and trees just naturally go together, but it remained for the Oregon Order of DeMolay to make one finance the other.

Several years ago, a 69 acre burned-over tract on the Mount Hood National Forest, Oregon, was taken over as a reforestation project by the DeMolays; but it requires money to reforest and even dimes have been scarce with the boys these last two years. Then came the idea to trip the light fantastic for the tree treasury; so with the encouragement of Governor Martin (who will open the dance festivities with a radio message), and other prominent Oregon citizens, the boys will hold dances in 14 Oregon cities this month. The mayors in each of these cities will act as associate honorary chairmen and the prospects of filling the "DeMolay reforestation treasury" look bright.

YE EDITOR DISCOVERS

President Roosevelt has set up an allotment board to direct the spending of the \$4,880,000,000 recently appropriated by Congress for work-relief projects. The members of the board, which is to be known as the Allotment Division, are as follows:

Harold L. Ickes, Secretary of the Interior (Chairman)
Henry A. Wallace, Secretary of Agriculture
Frances Perkins, Secretary of Labor
Frank C. Walker, Director of the National Emergency Council
The Director of the Progress Division
Admiral Christian Peoples, Director of Procurement
Daniel W. Bell, Director of the Bureau of the Budget
Major General Edward M. Markham, Chief of Engineers, U. S. A.
Elwood Mead, Commissioner of Reclamation
H. H. Bennett, Director of Soil Erosion
F. A. Silcox, Chief of the Forest Service
Robert Fechner, Director of Emergency Conservation Work
Thomas H. MacDonald, Chief of the Bureau of Public Roads
Rexford G. Tugwell, Director of Rural Settlement
The Director of Rural Electrification
The Chief of the Division of Grade Crossing Elimination
The Director of Relief
Colonel Horatio B. Hackett, Chief of the Urban Housing Division
A representative of the Business Advisory Council
A representative of organized labor
A representative of farm organizations

A representative of the American Bankers Association

A representative of the Mayors Conference

This Allotment Division will consider all of the recommendations submitted to it, and such projects as they approve will be next submitted to the President, who, under the act, is required to make final allocations.

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The honorary degree of Doctor of Laws was conferred upon Chief Forester Silcox by the College of Charleston, S. C., on May 14.

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Latest estimates show that 123,250 men can be furnished employment by the Forest Service during the next 12 months' period at a total cost of \$153,164,000. In addition, 23,452 men can be given 12 months of employment on forest highways at a cost of \$37,595,000. The breakdown by Regions is approximately 75 percent of the estimates of work that can be done during a 16 months' period as submitted sometime ago.

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The advent of the Dutch elm disease brings about the closing of the gypsy moth laboratory, at Melrose Highlands, Mass., one of the oldest and best known insect laboratories of the Bureau of Entomology and Plant Quarantine. This laboratory was established by Dr. L. O. Howard, formerly Chief of the Bureau of Entomology, early in the present century to study the gypsy moth, one of the serious insect pests of the Northeast, and to introduce parasites from Europe. Later, the laboratory undertook studies of other dangerous forest insects of the Northeast, mostly moths. Because of its outstanding work especially in the field of parasitology, the laboratory became world famous and the results obtained here have stimulated parasite studies in several other countries. Its visitors' register carries the names of many foresters and practically all of the better known entomologists both of this country and Europe. The gypsy moth laboratory will be closed during the coming summer and the greater part of the personnel will be transferred to Morristown, N. J., to work on insect phases of the Dutch elm disease. The work pertaining strictly to forest insects and to the parasites that attack them will be continued but as a phase of the work of the forest entomologist attached to and cooperating with the Northeastern Forest Experiment Station at New Haven, Conn. R. C. Brown will be in charge of this new work for the Bureau of Entomology and Plant Quarantine.

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With the inauguration of the fifth period of the emergency conservation program, forest management will be practiced on six military reservations in the Fourth Corps Area commanded by Major General George Van Horn Moseley. Mr. R. S. Richardson, a graduate of the Forestry School of the University of Michigan, who has been acting as liaison officer in forestry matters in the Fourth Corps Area, has been appointed as technical forestry adviser to General Moseley.

At Fourth Corps Area Headquarters, General Moseley stated that five CCC companies will be located at Fort Benning, Ga., one at Fort McPherson Target Range at Waco, Ga., and one at the National Cemetery at Andersonville, Ga. Five companies will work at Fort Bragg, N. C., two at Fort McClellan, Ala., and two at Barksdale Field, Shreveport, La.

General Moseley said that the work programs for the sixteen camps allocated to the Southern military reservations will be similar to those laid out for National Forest projects, and will include the construction of lookout towers, fire breaks, and other aids to forest-fire prevention. Forest-stand improvement work will be undertaken, and trees will be planted where believed advisable. The program for Fort Benning includes a recreational dam and a nursery for propagating planting stock for the reservation.

MARYLAND DOCTOR STARTS DENSE PINE FOREST IN 5 YEARS

An 8-acre forest of loblolly pine containing saplings as much as 20 feet high has been created in an old-field stand in 5 years by Dr. Thomas S. Cullen near Easton, on the Maryland East Shore. The field, a portion of the old Ratcliffe Manor, was left idle in 1930. Dr. Cullen, finding a partial stand of young pines had started from seed blown from nearby seed trees, interplanted the volunteer stand, kept out fire, and watched the trees grow from a few inches in height into saplings tall as telephone poles. No expense except labor was incurred. The growth of the young pines has been amazingly rapid, Dr. Cullen writes to the Forest Service.

Several hundred seedlings damaged by moles and rabbits were replaced by Dr. Cullen, and there are now about 8,000 trees. The once-barren field transformed at a very small cost into a thrifty pine forest demonstrates the possibility of this portion of Maryland growing its own timber, Dr. Cullen believes. Heavy importations of lumber and box material are now necessary in this section.

CONTROL OF SILT

The structure and texture of the soil are controllable only so far as they are affected by vegetation and cultivation. A cover crop of grass, weeds, brush, and forest trees is effective in preventing weathering and excessive run-off with its accompanying load of silt. Decaying vegetable matter affects the structure and texture of the soil by contribution of humus and by the mechanical action of the roots perforating the formation.

The best method of preventing the deposition of silt in reservoirs is to keep it from being carried into the supply streams. This may be accomplished in part through extensive run-off control projects combining forestation, planting of grass cover crops, terracing of cultivated land, and constructing of check dams and other velocity-reducing structures. - Form Tech. Bul. No. 382, "The Silt Load of Texas Streams," by Orville A. Faris.



SERVICE BULLETIN

CONTENTS CONFIDENTIAL

WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES. IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT. ***THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY *** TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES. WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER

Thomas Roosevelt

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June 10, 1935

LIFE IN THE FOREST FLOOR

By R. F. Taylor, Washington

Dr. Paul Jacot, of the Appalachian Forest Experiment Station, bending his tall form down to cockroach eye level, reports scandalous doings in the litter and duff of the forest floor, in a recent article in the Scientific Monthly (May, 1935). He reports a world composed of the litter of dead leaves, twigs, branches and fruit parts with various floors separated by twigs, midribs, petioles, fruit husks, seed wings, beetle skulls, insect wing covers and feces. As one descends in this world the structure becomes more compact. The signs of worm and caterpillar visitors from the nether regions, of ant and beetle skulls and wing covers, become more abundant. Minute fungus moulds which feed upon the dead leaves and refuse weave the whole into a compact mat.

The territory of a vole (field mouse to you) is a thousand square feet; of a squirrel 5 acres of woodland. In the forest carpet the same ratios obtain. By restricting the examination to one square foot we restrict the animals studied to less than 1/4" in length. Similarly the lower size limit will be two or three tenths of a millimeter.

The total visible population of the square foot, depending upon the depth or thickness of the carpet will vary from 2,000 to 12,000 "souls". Some of these insects are non-parthenogenetic females, which is another way of saying the eggs hatch without a rooster in the pen. Others, says Dr. Jacot, must be near enough to a mate to be able to reach him within an insect's lifetime. Some animals, it is pointed out, are unable to travel. How they reach their mates is not stated.

In an area of such restricted choice of food many unrelated species must feed at the same table. The food supply consists of dead leaves, twigs, fruit buds and flower parts, pollen grains, spores, the entire sewage of the establishment and dead bodies of the community. The undertaking system is most practical.

The non-predacious animals are destroyers of leaf litter, keeping it full of holes, corridors and galleries, allowing water and air to circulate. They also reduce it to less highly organized matter, thus hastening soil fertility. Under certain conditions the predators multiply and check the litter reducers, the fungus eaters prevent the development of the cellulose-decomposing fungi or under other conditions the fungus eaters are so reduced in numbers that a dense mat of fungi covers the soil. Dr. Jacot believes all these conditions can be remedied to produce a soft black mull or a rapidly reducing duff. He believes the artificial control and culture of the forest floor fauna are of great importance to forestry.

On the other side of the fence is arrayed the army of predacious and parasitic species - averaging one to every nine herbivores. Pselaphid beetles feed upon springtails and mites; many of the mites feed upon springtails as well as on their own milder relations. Some mites are parasitic on larger mites. The jigger here lies in wait.

The springtails escape their enemies by releasing their caudal springboard which catapults them through space to the extent of one leaf width. Dwellers near the soil are smaller and can slip through smaller doorways and more low hung runways than their pursuers. The sky gazers on the roof are larger than the subway dwellers, often being protected by a heavy suit of their own hair. Another protective device in some of the mites is B.O.

These mites outnumber all other animals two to one. If a he-man mite were separated from a lady mite by a log one foot in diameter, it would take him an hour to reach her, provided he had no cracks or crevices to negotiate. About three-fourths of the population are eyeless and a large proportion are colorless. Coloration is found in the upper layers in the light, however.

Just as the diurnal human tide ebbs and flows through the lower levels of Manhattan, in the forest carpet the hordes move vertically, governed by changes in atmospheric pressure, moisture content of the air or light condition. The exact cause is not known.

So extensive a society is not without its characters. Don Quixote, the pseudoscorpion, 3 millimeters long, has a frontal battery unexcelled by any other denizen of the square foot. He is armed with two large pincers on the front of the head and two huge crablike nippers held out at the sides of the head. He only chases what runs from him.

Stiletto Pete (Bdella) in his ruddy skin, darts here and there with his dagger held ever before him ready to strike and suck. Scarface Al (Gamasisid mites) slinks about with a pair of hedge shears held ever before him ready to clip the flight of juicy springtails. Minute spiders, with their six to eight eyes on a conning tower quarter the concourses for anything that moves. Hawks (minute parasitic bees) come darting down, stab an egg into their victim and are off so quickly the victim is all unaware of the Jekyll which will develop within him.

This is the life that any one of us covers with his two feet on any woodland floor.

THE WASHINGTON OFFICE ORGANIZATION

By Peter Keplinger, Washington

Because of the greatly enlarged work programs, but chiefly because of new lines of work and new responsibilities, the Forester has found it desirable to completely reorganize the Washington Office. The old organization was built around the National Forests. They dominated everything, our thinking and writing as well as our work programs and plans. The National Forests are still important, more important in fact, but other interests crowd for recognition. Back in 1904 there was a flourishing Bureau of Forestry, but no forests. A new branch of the organization, "State & Private Forestry", picks up the work of that old Bureau where it was dropped in 1905, gives it recognition, and plans to carry it forward.

The new organization establishes three coordinate lines of activity; Forest Research, the Administration of the National Forests, and the promotion of State and Private Forestry. Each of these lines of work will have its own organization, each will be under an Assistant Bureau Chief. Under each Assistant Chief will be a group of "Divisions", each in charge of a "Division Chief". In the National Forest group there are the same old divisions that we have always had except that Operation is gone. It is succeeded by "Fire Control and Improvements". Forest Management has been changed to "Timber" Management, for, of course, the management of a forest would include all the other activities. Lands has been changed to "Recreation and Lands".

There are five Divisions in the National Forest group, four in Research, and three in State and Private Forestry. Already two more have been tentatively approved for Research although none of these approved have as yet been named. Ultimately, there will be some eighteen or nineteen Divisions instead of the old eight.

But so far there are listed only twelve Divisions in the three major groups. There is another group also under an Assistant Chief, whose duty it will be to service the three activity groups. This group is officially called "Finance and Service Functions". It includes three Divisions -- "Budget and Procurement", "Personnel Management", and "Information & Education". Public Relations like Operation is no more, that is in name, but part of the functions of the two of them are included in this all-service group.

This makes fifteen. There is one more - "Fiscal Control". It is not included in any group, but stands alone, McCarl like, to watch over and "Control" the others.

This is now the official organization of the Service as announced by the Secretary. In reality, however, we are still functioning under the old set-up. None of the new positions have as yet been filled. As given above the new list includes four Assistant Chief (Associate Forester in our old terminology) and sixteen Division Chief (with two more coming up) jobs. The plan includes four other assistants: one for E. C. W., one for Acquisition, and two unassigned.

One other feature of interest is the question of titles. It looks as if our old standby administrative titles of Forester, Associate Forester, and Assistant Forester were out, or just about. In future they will be used only for grades P-4, P-3, and P-2. Memoranda from the Secretary's office are now addressed "Chief, Forest Service". The new positions just classified are "Assistant Chief" not "Assistant Forester". So it looks like all forester jobs will in future be out on the forests.

ORGANIZATION

State & Private Forestry

Divisions:

- State Cooperation
- Forest Code
- Purchase & Regulation

Research

Divisions:

- Silvics
- Forest Economics
- Range Research
- Forest Products

National Forests

Divisions:

- Fire Control & Improvements
- Timber Management
- Range Management
- Recreation & Lands
- Engineering

ORGANIZATION (Continued)Financial & Service FunctionsDivisions:

Budget & Procurement
Information & Education
Personnel Management

Fiscal Control

ACCUMULATION AND RATE MELTING OF SNOW AS INFLUENCED BY A FOREST COVER

By Charles A. Connaughton, Intermountain For. Expt. Sta.

In 1930 the irrigationists dependent upon the streamflow from the Boise River in Central Idaho became somewhat alarmed regarding the influence of timber cutting on water yield. Among other things it was recommended rather forcefully that no future cutting of timber on this watershed be permitted. Little well-founded quantitative data were available to either refute or substantiate the validity of this recommendation and as a consequence a study of the relations of forest cover to the accumulation and rate of melting of snow was undertaken. The influence of vegetation on snow was emphasized because fully 75 percent of the usable water from this watershed originates from winter precipitation. This study was carried on for three years (1931-1933) and quite definite results are available at the present time.

It was found that the average annual interception of water in the form of snow in a stand of virgin timber having an understory of advance reproduction was 29.8 percent of the total winter precipitation. Similar figures for a stand of virgin timber having no advance reproduction and a rather open pure stand of reproduction 20 to 25 feet in height were 24.5 and 5.4 percent respectively. These figures may be exaggerated slightly, since water from snow which may have melted in the crowns and passed down the tree trunks was not measured. This error would be small in any event.

Inasmuch as interception varied with the age of the timber stands, the accumulation of snow beneath individual trees selected at random was studied. It was found in this case that 33.5 percent of the winter's snowfall was intercepted by the crowns of mature trees while 18.3 percent was intercepted by crowns of reproduction and immature trees, indicating the wasteful dissipation of snow by the high, spreading crowns.

Small openings in the forest were found to be practically as effective in accumulating snow as a large opening beyond the zone of any forest influence.

In regard to snow melting it is significant that the average date the ground became bare in the pine stand of advance reproduction was slightly over eight days later than the date the ground became bare in an opening beyond the influence of the forest. Also snow melting in the overmature stand having an understory of advance reproduction was retarded approximately eight days. In the stand of mature timber having no advance reproduction, however, snow melting was retarded only on the average of four days. A dense stand of sagebrush which was studied in this connection had very little influence in retarding melting.

It appears from this study that maximum yields of water can be expected from deforested watersheds but that resulting streamflow would be unregulated and subject to high

THE NEW UNIFORM





peak flow early in the spring. It appears also that a forest cover most suitable for water yield from the standpoint of accumulation and rate of melting of snow would be a young stand well interspersed with small openings in the crown canopy.

FOREST SURVEY IN MINNESOTA YIELDS FACTS OF NATIONAL SIGNIFICANCE

By Roy Miller, Washington

Value of the Forest Survey to the Nation as a whole is reflected in the inventory of timberlands in Minnesota. The preliminary report recently issued by the Lake States Forest Experiment Station is the first completed for an entire State since the National Forest Survey was undertaken by the Forest Service in 1930. Results in several other States should be available before long, giving a broad cross section - as the Minnesota survey gives a picture in miniature - of the United States Forest situation.

Estimates of the timber resources and trends of forest changes can now be backed by figures obtained by comprehensive and detailed studies and counts made by trained forest workers who have covered the State. Foresters, economists, administrators, and industrialists will no longer have to depend upon guesses about Minnesota's forests. And conditions in Minnesota are typical of many States where destructive clearing and lumbering methods have held sway. While taking the guess out of timberland statistics, the report has brought together facts which ought to be of material importance in formulating new measures in programs of conservation and rehabilitation.

This inventory shows that 97 percent of the old-growth commercial timber of the State has been used up, that two-fifths of its forest land has been completely denuded of trees. The quality of the forest stands also has suffered, only 29 percent of the original pine forest land is now stocked to pine, and aspen and scrub forest have increased four-fold and now occupy half the forest area of the State. The report takes up the brighter side, however, showing where a few important logged areas under forest management and fire protection have already produced timber of merchantable value.

It will be useful to know, when the Forest Survey is completed for the entire United States, just how many billions of feet of timber stand between the present and a possible future timber famine and what measures will be necessary to prevent such a national disaster. It will not be necessary to await completion of the national survey in order to reap benefits of the state-wide survey. From the Minnesota inventory it is already possible to glean the totals of standing timber, its location, quality, and availability for use by farm and industry within the State. Rates of growth, depletion, natural restocking, and planting are compiled. State, trade areas, and communities can now read the probable future in the present condition of the forests upon which they depend for products. Conditions of the land as well as the trees has been considered in the Forest Survey report.

"A century of forest use and abuse has made a profound change in the character of land cover in the State", says Raphael Zon, Director of the Experiment Station. "Of an original forest area of some 31½ million acres in Minnesota, there remains today only 19½ million acres, much of which is classified as forest merely for lack of a better name. Actually, 21 percent of it has no tree growth, and 38 percent is occupied merely by aspen and scrub oak. Only 41 percent retains any resemblance to the original types.

"Although a comparison of total areas shows a reduction of only 37.7 percent in the course of the century, the changes in size and quality are most striking. The original forest contained at least 10 million acres of old-growth pine, spruce, and hardwoods. The present area of old-growth sawtimber of all types is only 343,000 acres, or 3 percent of the original. Ninety-seven percent of this kind of timber which was the mainstay of the lumber industry, is now gone."

MEMORIAL DAY OBSERVANCE

Seventeen years have passed since the Armistice was signed, but the memory of the nineteen Forest Service men who gave their lives in the World War is still with us.

Their names are engraved on the Forest Service Memorial of the United States Department of Agriculture. Other honors have been paid to many of them, such as the designation of certain mountains to be known hereafter by their names.

The graves of two of these men are near Washington in Arlington National Cemetery. On Memorial Day, as in years past, flowers were placed on the graves of Stanley R. Augspurger and Ward Norris Woodward, in token that we who remain have grateful recollection not only of them but of all our soldier dead.—R. V. Reynolds.

YE EDITOR DISCOVERS

Newspapers have doubtless generally published the organization by the President of three agencies to handle allotments and general direction of work under the emergency relief act of April 8, 1935. One of these agencies is the allotment board, which was described in the last issue of the Bulletin. Forest Service estimates did not come up for consideration at several early meetings of this board. On May 24 and 25 the estimates were recast in full accordance with the existing instructions for submission of estimates and were resubmitted together with a distribution of persons to be employed by counties, 796 counties being involved in the statement.

It was expected that these estimates would be considered at the May 27 meeting of the board, but this meeting was postponed, and since May 30, the next regular meeting date for the board, was a holiday the estimates of the Forest Service will not be considered until the meeting on June 3. Since this is being written on May 29, the outcome is not known.

The President's Executive Order of May 20 set up a complete outline of policies and procedures for determining wage rates to be paid on emergency relief activities. It was supposed that this order because of its importance would be published by the leading newspapers all over the country, but indications are that this was not done. The order has been mimeographed and distributed in quantities sufficient to supply one to each District Ranger. Mimeographing was delayed until an authoritative copy of the order could be secured. There were discrepancies in the newspaper wage scales and it seemed desirable to have the mimeographed copies sent out by the Forest Service in complete conformity with the actual order signed by the President.

Wage rates are determined by counties, and the classification of each county is determined by the largest municipality therein. The whole country is divided into four wage scale regions instead of three, as under the public works wage policy of two years ago. This makes a rather intricate set-up with many conflicts and inconsistencies from the standpoint of the activities of the Forest Service, which are seldom located in or near the larger towns. The Executive Order contains an adequate provision for adjustment of such conflicts under the authority of the works progress administrator, Mr. Hopkins, and all possible efforts are being made by the Service to present the wage scale difficulties of the Service in such a way as to secure reconciliation of conflicts and approval of suitable wage zones by Mr. Hopkins.

Much controversy is to be expected over wage scale questions involved in emergency relief activities, and it is desirable for everyone having contact with either the public or the executive responsible to become thoroughly familiar with the text of the President's order of May 20.

The Forester wants to continue and extend the impetus given to sustained yield planning and to provisions for keeping forest lands productive in spite of the termination of the Lumber Code, among others, by the Supreme Court decision of May 27. The benefits to land owners as well as to the public have been made so apparent that abandonment is unthinkable. At this writing, (May 29) definite plans for the future have not been announced, but the effort to have private forest lands well handled is to be maintained.

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The first box score in the current National Forest fire record has been issued as of May 20. Outstanding in the report is the fresh evidence of the relatively large number of fires and area burned over with which the Forest Service has to contend when it takes over new territory under extension of the National Forest system through purchase. In the box score for the period ending May 20, Region 8 surges up with 71,000 acres burned over since the first of January, and the presumption is that this is largely due to inclusion of new areas which have not yet reflected the influence of the usual National Forest fire control efforts. The same difficulty in dealing with new areas exerted an important unfavorable influence on Region 9's record last year and the same thing may be expected in some degree this year, although it is not so outstanding in the May 20 box score as it is in the case of Region 8.

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Patent 2,000,375 has been granted to T. N. Busch, Assistant Supervisor of the Osceola National Forest. This patent covers the invention of an instrument while Mr. Busch was working in the Southern Forest Experiment Station. The instrument is used in marking or scribing the trunks to be worked for resin. Its purpose is to delimit the size of the face which is to be cut on a tree by the woods workers. The instrument, of course, will find its greatest usefulness and value in the turpentine region of the South.

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"Construction Hints", a news letter containing helpful suggestions pertaining to engineering and construction, came into being with the May 4 issue. This publication is to be issued bi-weekly by the Division of Engineering of the Washington Office. Its purpose is to furnish information on the various construction and engineering methods used by the Forest Service, suggestions for improving these methods, and similar material.

The Editors of this new publication say: "If the field men of the Regions will cooperate by contributing descriptions of construction methods or similar matter which may be of value to other Regions this little news letter should do much toward promoting good practice and improving Forest Service methods. The matter contributed may cover any field of construction or engineering engaged in by the Forest Service. Field men should make their contributions through the Regional Forester. Appropriate credit will be given for all items published."

This news letter, it seems to the Editor of the Service Bulletin, should be very valuable to members of the Service interested in such matters. We congratulate the Division of Engineering on the inauguration of this publication and wish them every success.

MORE ABOUT MICE AND MEN

By F. V. Horton, R. 6

Spring a new idea on ten men (Forest Service men), and what is the preponderant reaction? I'll lay a bet that eight out of the ten will immediately tell you why your idea won't work (in California, in Montana, on the Podunk National Forest or Vistilla Ranger District).

Take a concrete example. When radio was first suggested for Forest Service use, nearly every expert said "it couldn't be done", except the Navy. Most of their experience was on water, so they thought it might be done. The highly specialized technicians took down their books, graphs, slide rules, and sharp pencils and proved "it couldn't be done", but a few foresters were so ignorant of radio that they tried it anyway and it worked.

Now, after we of the radio project got to thinking ourselves pretty smart and pretty well educated someone suggested using a loop aerial. Again, "it couldn't be done". Now, even the Forest Service radio technicians proved "it couldn't be done", but a Ranger 'way back in the tall timber, a ranger who had always been on timber sales, made a loop. He used junk wire; he used a junk frame; the wire was too small; his splices were terrible; the loop was wound wrong; the electrical impedance match was all wrong, and anyway, loop aerials were all wet - BUT the darn thing worked!!! One radio technician says he doesn't believe it even when he hears it.

So again, we have the technical mind getting grooved. If it were an administrative man we would say he was in a rut, but "groove" sounds more refined.

Moral: Don't believe everything you see in print.

HAPPY BIRTHDAY

From fallowed fields and from the hearts
Of cities great these legions came,
True sons of toil and men of arts
Not seeking wealth nor courting fame,

Nor yet to prosecute a scourge
Of ghastly war upon mankind;
With primitive destruction urge
This valiant corps was not designed.

This Forest Army, "CCCs,
Staunch flowers born of native buds,"
'Rose to defend a Nation's trees
To conquer drouth, to tame the floods;

Countless, their sagas of success
By tongue and pen have well be told,
But why this birthday? Can't you guess?
Today our Corps is two years old.

By Harry A. Clark

(Enrollee Co. 2920, CCC, Sullivan Lake Camp F-1
Metaline Falls, Wash.)



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Theodore Roosevelt

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HOW TO MAKE A TALK

By W. R. Mattoon, Washington

Foresters are essentially doers rather than talkers. Yet occasionally they are called upon or find it necessary to present their ideas in talks to the public. It is then some find that their personal resources are limited.

There are a few simple points about public speaking, as everybody realizes when he stops to think about it, that make a mighty big difference in the effectiveness of the speaker in getting his message across to the public. A summary of helpful suggestions for reaching an audience by means of a talk has recently been prepared by an expert in Uncle Sam's family, namely, Mr. A. B. Graham, In Charge of Subject Matter Specialists, Division of Cooperative Extension, Agricultural Extension Service. Incidentally, Mr. Graham is in practically continuous demand as a speaker by the Extension Services of the State Colleges of Agriculture for talks on how to reach and influence more people - ear-minded, eye-minded and others - to adopt better practices on the farm. Here are his points:

Use only a few ideas.

The talk should be planned with reference to its being orderly.

If historical introduction or historical material is used, it should be used cautiously and briefly, with due consideration for the audience.

"It has been your observation", "It has been your experience", "Much that I shall say is no doubt well known to you" used occasionally help to put the audience in sympathy with the speaker and stimulate interest in the discussion.

Short stories illuminate. A long and tedious story detracts, no matter how pertinent. Satire and wit gain a very little bit.

Concerning the use of charts

The speaker should not depend on his charts to remind him of his points. They should assist him in developing his talk as he proceeds.

The speaker should take a position well to one side of a chart, so that the audience may see it from every part of the room, particularly when he is pointing to it.

The chart should assist the speaker in clarifying his talk but should not precede his subject.

Do not show information on chart all at once.

Regarding Delivery

A speaker should not be "tied" to his manuscript if one be used. Clearness of delivery is more necessary than loudness of speech. Inarticulate words do not carry very far.

The appearance of extemporaneous delivery impresses an audience very favorably. Prolonged hemming and hawing make an unfavorable impression. Chalk illustrations add much to a talk.

Regarding position

Pacing back and forth suggests a confined or caged animal. Maintain a natural position. Eyes should be cast directly at different parts of the audience. Let the hands hang until the necessity for emphasis brings them into use.

Regarding answering questions from the floor

Questions from the floor should be restated by the speaker and repeated so that everybody may hear them before the answer is given.

Answers for an inquirer near the speaker should be made loud enough so that all may hear.

Suggest a private interview concerning questions which do not pertain to the subject discussed.

Irrespective of all these suggestions, be natural and see that you get your points to the audience.

ON COLOR SCHEMES FOR THE INTERIOR OF LOOKOUT HOUSES

By Donald N. Matthews, Pacific Northwest For. Expt. Sta.

There has been considerable discussion in the past as to what color to paint the interior of lookout houses. One school of thought recommends a dark finish such as some brown or green shade on the theory that it will be restful to the eyes. Another theory is that the interior should be a very light tint so that the lookout in shifting his attention from objects inside the house to the landscape outside will not be subjecting his eyes to violent adjustments because of the difference between the interior of the house and the outdoors.

This problem was submitted to Dr. M. Luckiesh of the lighting research laboratory of the General Electric Company. His reply is quoted in part as follows:

"I do not believe that your interior finish is very important from the viewpoint of efficacy of seeing. Of course I would not make it either black or white. The former would be annoying at times owing to the excessive contrast, and the latter would continue to send more light into the eyes than would be desirable on sunny days. I believe the interior finish should be dictated by esthetics, or more broadly, psychological effects. I should think a subdued medium tint of green would be satisfactory. I mean by that to mix both black and white in a satisfactory green paint. . ."

"You mentioned wheel-houses of ships." (In my letter to Dr. Luckiesh I pointed out that it had been my observation that the interior of the wheel-houses of ships was usually painted white and asked him whether or not there was any real advantage in so finishing them.) "Of course they are open only to about 180 degrees of the horizon. At least they do not have light coming in from all sides. Therefore I believe white would be fairly suitable in order to keep the eyes at a high state of adaptation to light. This is desirable in your case, but I believe a white interior would be brighter than necessary inasmuch as the lookout

house has windows on all sides. I believe the ceiling should be quite light in color, but the rest of it should be most satisfactory from a combination of all viewpoints if it were subdued and had a pleasing color, although I would have it nearer to white than to black in reflection factor."

FILMS FOR WOODS PHOTOGRAPHS

By John T. Auten, Central States For. Expt. Sta.

Every forester has experienced considerable difficulty in securing detail in his photos taken in the woods. This is especially true where it is necessary to include some sky. The usual result is to overexpose those parts of the picture which are adjacent to the highlights and to incur a loss of detail in the smaller twigs. At the Central States Station, some experimenting with commercial ortho, Super Speed portrait, and Panchromatic portrait films with and without K₂ ray filter indicates that the use of Super Speed portrait cut films gives good results for pictures in the woods. The Super Speed portrait film will often enable one to minimize the effect of movement of foliage by allowing a shorter exposure than normal.

Where color values are desired, the portrait Panchromatic film is superior and usually gives good results without a ray filter. It is only the very unusual pictures, such as those of soil profiles where there are gradations of browns and yellows, etc., that warrant a ray filter, yet even here a properly-exposed portrait Panchromatic film is, as a rule, not improved much by the use of a ray filter.

MICE AND MEN (MORE COMMENTS)

By Philip C. Wakeley, Southern For. Expt. Sta.

Hunt's comments, in the April 18 Service Bulletin, on the possibility of using metal seed containers to prevent rodent damage on direct-seeding operations bring up several interesting points.

In 1933 a preliminary trial was made at the Southern Station with wire tubes, of different sizes, filled with soil and containing 3 to 5 seeds. The idea was precisely that advanced by Hunt, to furnish protection from rodents (and also birds) by means of a metal container that would rust away before the resulting seedling became large enough to suffer constriction. The tests were made in flower pots in the laboratory, and proof of the effectiveness of the tubes in keeping off rodents resulted from an unexpected invasion of the laboratory by house rats. Germination in the tubes failed, however, despite fair germination of the same seed in the same soil outside the tubes in the same flower pots. It was thought that differences in moisture supply accounted for the difference in germination.

In 1934 the test was repeated, substituting agar for the soil, using stratified seed to induce rapid germination, and watering at 5-day intervals to simulate field conditions. The test was set up in a rat-infested garret, under conditions somewhat more severe than might be expected in the field. Rats got the seed in all the short tubes and in all the tubes of large diameter. Germination failed in the remaining tubes, apparently because of drying and shrinkage of the agar between waterings.

The problems of tube design and germinating medium are complex. The tubes must be small enough in diameter, and great enough in length, to keep the seeds beyond the reach of bills of birds and heads and paws of rodents. The dimensions are difficult to specify

until we know what birds and what rodents are taking the seed. At the same time, the tubes must be short enough and wide enough to permit the seedling to straighten up after germination. The right dimensions for different species can be determined in the laboratory once a suitable germinating medium is devised. It may be possible to seed longleaf pine in a wire container with a closed top, as there is no stem growth for some years, and normal development might take place with the needles projecting through the meshes of the wire.

It goes without saying that the success of such a method must depend to a great extent upon control of the condition of the seed with regard to viability and dormancy. The tubes or other containers might have to be loaded immediately before being set in the field, using seed freshly withdrawn from moist stratification in refrigerators, or pre-sprouted on prepared media. Some light should be thrown on this phase of the tests by studies now being carried on by the Southern Station at the Stuart Nursery, in which use is being made of seed brought nearly or quite to the point of germination before being sown.

WHAT TRAITS IN A MEMBER OF HIS FORCE DOES A LEADER VALUE MOST

By Horace F. Ralph, R. 4

(Excerpts from the R-4 discussion on "Leadership")

1. Loyalty.
2. Honesty (to both self and leader)
3. Resourcefulness and ingenuity.
4. Ambition.
5. Positive response and reaction.

Or, expanding a little on these ideas, I think a leader values an active and responsive reaction, coupled with ambition and guided by well thought out plans. He values the manifestation of resourcefulness and ingenuity in working out the problems at hand. A member should be honest to his job as well as to himself and leader. The leader appreciates the type of loyalty which creates confidence and faith and brings forth helpful, constructive suggestions from his members.

"EMBALMED" WOOD NEW GUARD AGAINST SHRINKAGE

Embalmed wood — completely sealed with waxes that resist the ravages of moisture — may be science's answer to long-felt demands of wood users for a more perfect working material.

A new process for achieving greater permanence in this way has been developed by Dr. A. J. Stamm, chemist of the Forest Products Laboratory.

If successfully applied on a commercial scale, the new "embalming" process opens up possibilities of finer craftsmanship in wood and better service to the user than have yet been attained. Sporting goods such as tennis rackets and golf clubs would be free from the hazards of warping, parquet floors would take on new life, smoothness, and permanent polish, cabinets, panels, and table tops would stay for years in "new" condition — all the while preserving a natural finish to reveal the beauty of the wood grain.

A thoroughgoing treatment such as this process affords gives far better insurance against future seepage of moisture into the cell walls of wood than ordinary surface treatments with antishrink materials, Dr. Stamm points out, because the latter can be impaired by cutting, nailing, or continued wear.

The process developed at the Laboratory has definite advantages over older methods. Previous attempts along this line to make woods less vulnerable to weather have been confined to direct impregnations of wax into the gross capillary structure of dry wood. Such processes, always incomplete, failed because, when treated wood wax exposed to moisture, the water quickly penetrated the millions of unsealed cavities and invisible openings in the wood tissue.

Dr. Stamm's process makes use of an intermediary or transfer solvent. Green wood whose natural water content keeps the submicroscopic membrane spaces wide open, can be used, thus eliminating the necessity for seasoning. "Cellosolve," the intermediary substance, is injected into the wood by a replacement process, dissolving into and replacing the water, which because it boils at a lower temperature than does cellosolve, is distilled off.

Impregnated with cellosolve, the wood is next placed in a melted wax bath, and the replacement process is repeated, with the wax dissolving into and replacing the cellosolve, which is in turn distilled off. Beeswax and stearin are among the waxes successfully used in the process, but such substances as rosin and linseed oil can also be used with waxes in many combinations.

An important feature of the new process is the fact that the green wood, when filled with waxes, very nearly retains its natural size even through wide changes in the moisture of the surrounding air. There is no initial damage such as often occurs when green wood is dried, so that loss of wood from checking, bowing, twisting, and the like is largely eliminated.

DRY OR BUTTERED "BREAD"?

By Stanley M. Lukens, Beaverhead

I approved of Hopkins' "Inspection" article in the Service Bulletin for April 29, when he recognized the importance of instruction and education of the inspectee against compared standards on the job inspected. But after thrice reading his three proposed objectives, I decided that Hopkins wears both belt and suspenders.

We are wrong in assuming that not once in an inspector's life will he find one project of sufficient standard proximity that adverse criticism or comment is not needed. It will occur just as surely, if no more frequently, than Haley's Comet will return. For its occurrence, let us have a subdivision of Hopkins' No. 1 or No. 3 objective that will enable the inspector to so inform the inspectee or reviewing officer.

If we are to consider the man in the charitable light Hopkins does, the butter of earned approbation is a necessary spread to the bread of constructive criticism.

If we are to consider the Service only, the same similes apply. The Service is only as strong as its men. The more "bread" they consume, the stronger they become. Dry bread goes down hard.

I'm going to go a step farther and consider the inspector, and because I've been exceptionally inspection-fortunate in my short and narrow sphere of Service activities, I'm going to consider him as a human being. The inspector really should not be considered for the man in him. The Service is paramount, here, but the two dovetail. A good inspector - Service viewpoint - is also a human being. And his value to the Service is high. By spreading a little butter on the bread, if it is handy, he not only accomplishes the job of building stronger men, but he also cultivates the inspectee's appetite for bread, to the point that an inspectee looks forward to or asks for an inspection. My appetite has been so

educated that I not only desire inspection (I've never had enough), but I have often pointed out obscured things to an inspector when I knew the bread would not only be unbuttered but stale. I think when an inspector can engender such an attitude, he has profited more than the Service or the inspectee. - From R-1 Bulletin

YE EDITOR DISCOVERS

Allotment of \$15,000,000 to the Forest Service for forest work under the work relief program was tentatively approved by the allotment board on June 10. Final recommendation for Presidential approval is expected at the meeting of the board on June 17. Work contemplated under this allotment includes practically all the activities of the Forest Service being carried on at present, as well as the Shelterbelt project. It is estimated that an average of 14,584 men will be provided employment for a 12 months' period under the program.

Under cooperative plans with the Biological Survey and the Bureau of Fisheries, a number of fish and game technicians are being employed in the various Regions. This is not only for the purpose of increasing the efficiency of the work in the CCC camps under existing projects, but also to determine the needs of wildlife, including fish, on other areas and how those needs can be successfully met.

Field observations made by members of the Bureau of Entomology and Plant Quarantine, during the past three years in the Northern Rocky Mountain region indicate that wild Ribes growth may be partially controlled by regulating methods of logging and slash disposal. In this region Ribes are generally temporary species in the mature forests of the upland types. Apparently, they are carried over from one forest cycle to another by means of dormant seeds which remain viable in the lower strata of the forest litter. These seeds germinate and establish new plants only when the litter cover is destroyed or severely disturbed, as by forest fires or clear-cutting operations. It was observed that areas on which the brush had not been burned after logging showed the lowest average number of Ribes viscosissimum. Areas on which the brush was piled and burned showed 30 percent increase in the number of Ribes over areas on which the brush was not burned. The greatest number found after logging appeared on those areas where the timber was clear-cut, followed by a broadcast burning not sufficiently intense to consume all the organic material.

Plans for the formation, on a statewide basis, of an organization of leading physicians and surgeons of California who will render expert emergency medical service on all going forest fires, without cost either to the State or Federal forestry departments, were announced recently by the California State Chamber of Commerce, following approval of the plan by the board of directors of the chamber.

The plan, as proposed by the conservation committee of the State Chamber, calls for organizing throughout the entire State an auxiliary body to the California State Division of Forestry and the U. S. Forest Service, to be known as the California Forestry Medical Corps.

The personnel of this corps is to consist only of qualified medical men who have signed an agreement of membership in the corps, agreeing to make themselves available on call for emergency work on any forest fire occurring within their designated areas.

Effective March 1, 1935, all probational employees appointed in all grades of the professional service of the Department of Agriculture will be required to serve a one year

probationary period, instead of six months. This decision was reached after a survey made of all the Bureaus of the Department of Agriculture. It was the concensus of opinion of a great majority of officials contacted that the period of probation should be changed from six months to one year for all professional employees, and the Civil Service Commission, under date of February 9, 1935, approved this change.

RESOLUTION REGARDING THE SHELTERBELT PROJECT ADOPTED BY THE

NORTHERN ROCKY MOUNTAIN SECTION OF THE SOCIETY OF AMERICAN FORESTERS

WHEREAS, One of the major conservation proposals to be acted upon during the present session of Congress is the further continuance of the midwest Shelterbelt Project, given its initial impetus in 1934 and precipitating a great flood of criticism, pro and con, from every corner of the land; and,

WHEREAS, Much of this criticism is destructive, not based upon fact, failing to take into account that many of the 1934 farm grove and shelterbelt losses were directly due to one or more of the following causes:

1. Selection of ill-adapted species.
2. Planting on spots showing most adverse conditions.
3. Inadequate preliminary preparation for recent plantings.
4. Neglect; and,

WHEREAS, There are reported to be thousands of plantings throughout the zone in question which survived and prospered during the 1934 drought; reliable reports from experiment stations within the zone report that the majority of trees planted in the spring of 1934 survived; the greatest scientific support for the project is in the form of tangible results from literally thousands of plantings made by individuals and agencies within the zone during the past half century or more; and,

WHEREAS, Those now entrusted with the project propose to insure its success through:

1. Selection of species on the basis of past performance and proven adaptability to the region where they are to be planted.
2. Previous classification of soils to determine where shelterbelts can be successfully established and maintained.
3. Preliminary adequate preparation of planting sites to preserve moisture and protect young stock until established.
4. Adequate care of the plantings through formative stages till the desired shelterbelts are attained; and,

WHEREAS, There are abundant and irrefutable data which point clearly to the conclusion that properly located shelterbelts will:

1. Materially retard wind erosion of soils.
2. Serve as catch basins for snow, thereby holding snow in the fields to melt and raise the soil water table rather than being blown off into depressions to accelerate floods and erode gullies with the first burst of warm weather.
3. Reduce surface evaporation of soil moisture by definitely breaking the drying summer winds.
4. Provide protection to stock and humans from wintry blasts and summer heat.
5. Raise social standards by introduction of the beauty and variety of tree growth in a treeless country.

NOW, THEREFORE, BE IT RESOLVED: That the Northern Rocky Mountain Section of the Society of American Foresters, in its regular meeting February 11, 1935, does hereby endorse

and support the Shelterbelt Project as those now in charge of the project propose to see it through; furthermore, that this resolution be forwarded for early publication in the Journal of Forestry; that a copy be sent each Section; and that it be otherwise used in any manner which will further the cause of the project in question.

NEW SOUTH WALES FORESTATION PLAN TO COST 300,000 POUNDS

New South Wales's 50,000 pounds share of a Commonwealth afforestation grant is bound up with a scheme involving an expenditure in this state of 300,000 pounds, since the New South Wales Government will supplement the Commonwealth grant on a pound for pound basis and, while the national government is not committed beyond the first year, it is expected that the grant will be continued for a three years' period.

This is the basis of the scheme put forward on behalf of New South Wales when the states were invited recently to submit proposals to the Federal Government. Minister for Forests Arthur Vincent stated that the main avenues of expenditure would be:

1. Netting-fencing of cypress forests to secure natural regeneration by the exclusion of rabbits and sheep.

2. Excavation of ground tanks in cypress pine forests to provide water supply for fire-fighting and other purposes.

3. The construction of cottages for overseers in forests throughout the state.

4. The spending of 50,000 pounds in three years on afforestation and incidental works, to prevent or mitigate erosion on the catchment areas of the Hume and other rivers.

The purchase of fencing and materials for the cottages will provide employment in other industries, while on the actual afforestation the new scheme will employ 240 young men. Single unemployed men aged from 20 to 26 will be engaged. The men will work 30 hours each week and will be paid at the basic wage rate.

They will be provided with a fortnight's rations and equipment. At present, between 1500 and 1600 men are employed under the state scheme, which was inaugurated last April on a 12 months' basis, 200,000 pounds being made available from state funds. - From the Christian Science Monitor.

XYOLOGISTS AGAIN HONOR YALE PROFESSOR

Professor Samuel J. Record, of the Yale School of Forestry, has been re-elected Secretary-Treasurer of the International Association of Wood Anatomists for a term of three years beginning the first of June. This Association, which was founded at Paris July 4th, 1931, is composed of the foremost xylologists of 25 different countries. The activities of the Association are directed by a Council of twelve members, now of nine nationalities. On this Council are three Americans, namely, Professor I. W. Bailey of Harvard University, Mr. Arthur Koehler of the U. S. Forest Service, and Professor Record.

The Association is sponsoring a cooperative systematic study of the woods of the entire world, centering about the Yale collections, which now contain thirty thousand specimens. Universal standards are being set up for this work and a dictionary of terms will soon be published in ten languages. The Association will convene in Amsterdam, Holland, next September in connection with the Sixth International Botanical Congress. Professor Record will represent Yale University at both meetings. - Yale University News Statement.



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THE RANGER DISTRICT OF THE FUTURE

By Norman L. Norris, Sequoia

Twenty years ago, the idea of the Forest Service spending such sums as four or five thousand dollars a mile for roads, or a thousand dollars a mile for firelines, seemed remote. Within the past few years such expenditures have been taken as a matter of course.

It is now possible that we will receive for our ranger districts, to be spent within the next two years, an average allotment of approximately \$350,000. Can anyone believe that this sum will be spent, and then our business will resume its old proportions? I believe the old ranger district is a thing of the past, as regards administration and business.

If this allotment materializes we will build many improvements -- roads, trails, firelines, ranger stations, etc. But we must visualize more than present needs, and plan ahead just as far as humanly possible.

Now is the time to decide whether our headquarters and other stations are, and will continue to be, properly located for years to come. Aside from strategic location, we must have room to expand. To locate in the wrong place, or where there is no room for expansion, means that within a period of a few years it will be necessary to move somewhere else. The money that went into our stations will have been wasted.

In my district I need at present for my headquarters a total of five houses, including office with quarters, for ranger, administrative-assistant, operator, dispatcher, and fire crew or road foreman; two warehouses, one barn, an eight-stall garage, some combination garage-woodshed buildings, water for possibly twenty-five people, and sewer plant for the number.

Suppose we built on the above basis. At the present location we might have room for one or two more buildings, by crowding, and we can get by for water, though there would be no reserve, and no chance to develop more. The sewer system is at present barely adequate, and it cannot be improved without the installation of an expensive plant.

Looking ahead fifty years I can see the need for the following set-up for the Deer Creek District:

District Headquarters: Houses, eighteen, for the following personnel - ranger, assistant, executive assistant, improvement superintendent, recreation superintendent, two dispatchers, two operators, two patrolmen, hatchery and game farm manager, head mechanic, law enforcement officer, caretaker, and warehouseman. In addition, there will be needed an

administration or office building, restrooms, fire and improvement crew barracks, mess hall, a complete shop, parts room, service station, three warehouses (fire, road equipment, and supplies), a large garage for trucks and official cars (at least twenty stall), an airplane hangar, garage-woodsheds for private cars, underground gas tank of at least 2000 gallon capacity, underground fuel oil tanks for all living quarters and shop, a light plant, landing field, pump house, irrigation and domestic water for at least 150 persons, and sewer system for the same; a fish hatchery or rearing ponds, game pens, a playground, and water reservoirs.

This is quite a formidable list, but having written it I can pick flaws in it already. It is too small.

I don't believe we will continue to run twenty-four hour shifts per man. Dispatching and lookout work require twenty-four hour service. At present dispatchers are on duty twenty-four hours a day, though they usually are able to sleep at night. Lookouts are on the job about sixteen hours a day, and the other eight hours we just hope no fires will start.

With the six-hour day in the near future it will be necessary for us to reduce working hours. Automatically, more men are needed. We will need at least two dispatchers; and three lookout men per station. There is, of course, the possibility that fire detection machines, which are now being experimented with, will be perfected, and will partially replace lookout men. At present, however, these machines are operated by light, and until they are able to detect smoke they would be useful only at night. Indications would seem to call for human service for some time to come.

I foresee the need for six more guard stations on this district, to include houses for two guards and one caretaker, an office with rooms for visiting officers, combined barracks and mess hall for fire crews, fire warehouse and garage, hangar and landing field, water systems, light plant, sewer system, tank house, tanks, etc. Also a road equipment warehouse at strategically located stations.

For lookout stations, I would plan for observatory house, with the possibility of chemical gun mounted on top, four dwellings, or combined flats if space were limited - these buildings to be located under the hill below the lookout tower; water tank to run gravity water to dwellings, to be pumped or piped from any available source, or, if no water were available by piping, it could be hauled, and supplemented by catch basins. On account of lack of space on some lookout points, it might be necessary to build the living quarters some distance from the lookout. A caretaker would be required; restrooms, garage, gas and fuel oil tanks underground, a hangar and a landing field.

It seems that nothing else could be needed for the next fifty years. Perhaps not, but in picking a location for the various buildings on this district I believe there should be room for the above list, and room left for more expansion if possible.

If we rebuild the district headquarters at its present location I believe it will be necessary in a very few years to pull everything out and start over. If at that time the possibilities of future expansion were again under-estimated it is easily possible that another move might be necessary, and more money would be wasted. I don't believe we want this kind of record.

I believe now is the time to select a new location which would permit all the necessary expansion which we can foresee, the area should be mapped, a plan made for the location of every building we can foresee the need of, and when business increases to the extent that these buildings are needed they should be put in according to the plan. The station might look like a skeleton at first, but not for long.

New roads will throw open some of the finest recreation country available to Southern California and San Joaquin Valley people. There are twenty-one areas on this district where I believe at least 1500 buildings could eventually be erected as business and population increase.

Twenty-seven really first-class campgrounds could be made available, including one room rental cabins (rock or rustic) set in one part of the campground, and numbering, very roughly, of course, about 350. These camps would provide also free camping, with such improvements as we are now installing brought up to date from time to time. In addition there are other very desirable campground sites available off main roads, where no cabins would be needed. At the cabin camps a dwelling for campground manager would be needed.

Public landing field with special use service stations, and commercial uses for road service stations and hotels would also provide revenue.

Timber sale operations, firelines, hazard reduction, bark beetle control, reforestation, thinning, erosion control, road work, landing fields, station maintenance, and many other jobs would keep a large force of improvement men on the district. Grazing seems pretty well out of the picture, though there are five good lower non-recreation ranges in the grass and brush country which could be fenced and used for grazing until they were needed for game animals.

Until public sentiment and recreation make it necessary to close the summit country to grazing, meadows could be fenced to prevent overgrazing and erosion, allowing use in late summer.

We can't see into the future beyond a certain point. Without a doubt this outline is just a hazy sketch of what will come to pass. Even so, it seems apparent that the ranger district has a real future, and that it will pay to look ahead fifty years and plan accordingly. If we don't there will be a lot of money wasted, and our organization will suffer accordingly in the eyes of the public.

A NEW USE FOR LONGLEAF PINE NEEDLES

By L. J. Pessin, Southern For. Expt. Sta.

Approaching Hattiesburg, Mississippi, from Wiggins on highway 49E one is attracted by huge piles of pine needles just off the road to the west, near a structure that suggests a sawmill or a turpentine still.

On entering the structure one sees a pile of clean longleaf pine needles and is informed that only longleaf pine has so far been used for this industry, although, in the guide's opinion, shortleaf can also be used. On a platform is a large cylinder about 8 feet in diameter and about 12 feet long. This cylinder is made of metal, and perforated in a crude way. The pine straw is placed in this cylinder and caustic soda in flakes sprinkled on it, and the cylinder pushed into a large retort. Then water is added and steam pressure of 30 pounds applied for about one hour. The cylinder is then moved out of the retort. The product consists of ordinary looking needles, except that they are blackened and no longer brittle.

These needles are then fed to carders crudely constructed and consisting of a drum in which are driven nails, the sharp points of which project a few inches at intervals of several inches. Alongside the carders are tanks filled with water. The treated needles are passed through the carder and torn into shreds and washed in the tank.

The torn needles are then passed through a second and a third finer carding machine, each time being torn into finer shreds and washed in the tanks. Finally they are put through a centrifuge which causes the excess water to be driven off, after which they are again run through a final carder and spread on the racks to dry. After the shredded needles have dried they are very resilient in character and suggest something of excelsior. Finally the material is pressed into bales and shipped to mattress makers, upholsterers, and others, to be used as stuffing.

Two to three acres can supply a ton of needles at a collection cost of about 50 cents a ton. Needles from burned areas are preferred, as those are freshly fallen and are clean. At the present capacity of the mill about two to two and one half tons of the finished product can be obtained daily. It takes about one and one-half tons of clean needles to make a ton of finished product or two tons of poor raw material to make one ton of finished product.

Thus a new industry is started in the South, utilizing another product of the forest.

SOUND SILVICULTURE AND LOCAL LABOR

By Quincy Randles, R.3, and E. E. Carter, Washington

Among the sample plans in Eldridge's bulletin "Management Plans with Special Reference to the National Forests" is one dated 1923 for the Rio Pueblo Working Circle, Carson National Forest, New Mexico. This plan was based on the probable continuance of the cutting of ties, their transportation by river driving to a point near Albuquerque, and their use by the Atchison, Topeka and Santa Fe Railroad. In the bulletin, note was made that by 1928 there had been an unexpected loss of this market, and that the management plan was inoperative.

The silvicultural basis of the plan was to grow trees for hewing into ties, as the chief crop. The cutting on Government lands from 1913 to 1925 was controlled with this objective. With a virgin forest to start with, the larger trees were cut and the logs sawed into ties, with some hewn tie production from tops and from those smaller trees which could be marked with betterment of the condition of the stand. The average site is rather poor. Sawtimber of high quality could not be grown anyway. By aiming at hewn ties for future crops and marking to about the equivalent of a 14-inch diameter limit, the surplus of ripe timber, stored on the stump, was removed, the stand was put in a good condition to grow, and what appeared to be an opportunity for sustained yield was taken as far as the then incomplete Government ownership permitted.

The trouble was that the high altitude species, Engelmann spruce and corkbark fir, went out of favor as tie woods, and other sources of pine ties could supply the needs of the Santa Fe. So cutting stopped in 1925, with the pine and Douglas fir types cut over, but with the spruce type only partly cut. Industry ceased. The local residents had no chance to supplement the meager living from their mountain farms by nearby woods work. And there was little prospect of the resumption of the old industry with its long drive down the rivers. The plan for a 30-year cutting cycle was apparently correct so far as growth went, but accessibility and markets had been forecast wrongly.

Twenty years have passed since the first National Forest cutting, in the ponderosa pine type. The trees left, averaging 86 per acre 4 inches and up in diameter, have been growing. There have been only insignificant losses from windfall, insects, porcupines or other "natural" causes. Net growth on a couple of permanent sample plots averages better than 100 board feet, or roughly $2\frac{1}{2}$ ties, per acre per year on areas cut under National Forest rules. The stands cut under private ownership, most of which have since been acquired under exchanges, have not yet recovered from the abuse they suffered, and have little present merchantable volume.

Meanwhile the road system has been extended and grades reduced on highway and development standards. Another railroad some 30 miles away is in the market for ties, and the 30 miles mean much less than they did a score of years ago. There is opportunity for some real stand improvement work by cutting tie-sized trees which are undesirable as a part of the stand, as when they are crowding other trees of more promise. Therefore the rebuilding of active timber management, with the local settlers getting desperately needed work, has

begun. An average of 8 trees per acre, yielding about 20 ties, are being cut in the heavier stands of the pine type. In another ten years, the original plan for a cut of perhaps 70 ties per acre every thirty years can be put in effect. And in about 20 years, some of the best of the acquired land will be able to furnish trees for local workmen.

It means recasting the management plan on a sounder basis, with a growing forest to manage; also logging by local industry in small units. Often a single family is a unit of tie-making and hauling. The higher parts of the drainage - the spruce type - may have to wait for a change in marketing opportunities, but sustained yield will be a reality for the National Forest pine and Douglas fir types by themselves, with a gradually increasing annual cut as the forest on other parts of the working circle recovers from old fires and the heavy cutting on the former private lands. It will take time, but the start has been made, thanks to the sound judgment of the foresters who planned and supervised the cutting of the virgin Government-owned forest twenty years ago. Sound silviculture and good fire control practice is rescuing another rural community after a boom and a bust.

YE EDITOR DISCOVERS

Through an agreement with the Agricultural Adjustment Administration, the Forest Service in its Shelterbelt program may use acres taken out of basic crop production under AAA contracts.

The agreement provides not only that the Forest Service, with the consent of signers of AAA adjustment contracts, may use for shelterbelt planting rented acreage retired from basic crop production but also that in some cases changes in the actual tracts taken out of production will be approved so that the Forest Service may obtain land more suitable than the acres originally retired.

For the duration of the AAA contract, landowners would continue to receive AAA rental payments on areas taken over by the Forest Service, but would receive no extra rental from the Forest Service. The Service would fence the land, supply trees, plant and maintain them. In taking over the land it would make lease-option agreements to insure control of the land by the Forest Service after expiration of the crop adjustment contract, and to provide for purchase at a stipulated price at a time selected by the Government.

The second phase of the project is farmstead planting, which provides for small woodlots and for trees around farm buildings. It would affect a minimum of 900,000 acres. The Forest Service would agree to supply the trees and plant them. The landowner would agree to keep cattle out and otherwise maintain the new woodland. He would receive AAA rental payments, as in the case of strip planting on acres covered by production control contracts. There would be no provisions for a continuing Forest Service control of farmstead woodlots, or for eventual purchase.

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Word from the Civil Service Commission indicates that there were about 2500 applicants for the Conservationist examination, about 1500 for the Junior Forester, and 800 for the Junior Range Examiner. With this huge list of applications to go over it will probably be a matter of many weeks before the Commission is able to furnish us information as to the number of applicants who passed the examinations and how many there will be on the various registers. This is probably the largest number of applicants for such examinations in the history of forestry.

A new eye test, devised by the Pacific Northwest Forest Experiment Station, will be given in the future to all candidates for lookout positions in Region 6. Outdoors, and in the glare of full sunlight, the prospective lookout will be tested, among other things, to determine how far away he can see a circular white spot $\frac{3}{8}$ inch in diameter against a dull black background about $1\frac{1}{2}$ by 3 feet. Those with good eyesight can see the white spot when it is more than 450 feet away, and persons with exceptionally keen eyesight have seen it at distances of more than 600 feet.

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As a result of action in the current session of Congress, it will be possible this year to organize a new Forest Experiment Station for the Rocky Mountain region. This station authorized under the McSweeney-McNary Forest Research Act of 1928 completes the program for the United States proper. The station will begin work some time this summer in three major lines of research - forest management, forest influences, and range management. Of the personnel for the station, only the Director and his principal clerk have been selected. The Director is Dr. Richard E. McArdle, formerly of the Pacific Northwest Station at Portland and for the past year Dean of the Forest School of the University of Idaho. Miss Eunice Skamser, formerly a member of the research unit which was maintained at Colorado Springs for several years and more recently principal clerk at the Allegheny Station at Philadelphia, is returning to the Rocky Mountain section. The location of the headquarters of the station is not yet ready to be announced.

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A report on the Shelterbelt program has just been completed in manuscript form. This report, consisting of about 600 typewritten pages and nearly a hundred maps, diagrams, figures, etc., summarizes the basic data to indicate the feasibility of shelterbelt planting in the Great Plains region. It was written very largely by a group of men working under the general direction of the Lake States Forest Experiment Station and includes sections on climate, soil, influences, species, economics, and European experiences. If printed, the report will undoubtedly rank with some of the best publications the Forest Service has issued.

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Following closely upon the passage of the Agricultural Appropriation Act of 1936, Representative Henry C. Luckey of Nebraska introduced a bill in the House to amend the McSweeney-McNary Forest Research Act. In this amendment, provision is made for another forest experiment station in the Great Plains and prairie region. The idea is that the station would be established primarily for investigations into the growth and development of trees for shelterbelts, windbreaks, and other shade and ornamental purposes throughout this region.

"ADIOS"

The California Ranger contains the following note: "Washington reports that the last Forest Service office has quit the Atlantic Building, and that everyone is now housed in the new marble Department of Agriculture building. We well remember the first time we walked through the dingy portals of 930 F Street, N.W., just 34 years ago next month, and with many misgivings hunted up G.P.'s office and started work in forestry. Much dust and grime have accumulated since then, but to the 'old timers' of the Service the Atlantic Building, with its rat-infested rooms, rickety brass-bound stair steps and musty halls will always be a lasting shrine of remembrance."

BUENOS DIAS

Those who are now housed in the "new marble Department of Agriculture Building" at 12th and Independence Avenue, known as the South Building, may think that they are "everyone" but those of us who are left at 930 F Street - and the building is still filled with Forest Service employees - still feel that we are a part of the Forest Service. Furthermore, we point with pride to the condition of the Atlantic Building as brought about by our efficient and friendly custodian, George Lautz, since "everyone" moved to the new marble Department of Agriculture Building. Those who remember the Atlantic Building as it was of yore will not find dust and grime accumulated or accumulating; neither will they find rat-infested rooms nor rickety stair steps.

New doors have been placed at the entrance downstairs and beautiful black and gold letters advise the passer-by that it is still the Forest Service, United States Department of Agriculture.

There are a lot of nice people still left in the Atlantic Building and some of them hope that since there is not enough room in the new marble Department of Agriculture Building to accommodate the Forest Service that perhaps some day the Service will be given what it deserves - a fine building erected on the outskirts of the City of Washington with noble trees of different species dotting its spacious grounds - an environment more in keeping with the out-of-doors character of its work than is the congested and ponderous government-building scene in downtown Washington. -- Oh, yes - - - - The new marble Department of Agriculture Building where "everyone" is now housed is not marble. - Ye Ed.

NEW BOOK ON "GOVERNMENT CAREER SERVICE"

Dr. Leonard D. White, Professor of Public Administration, The University of Chicago, and a member of the U. S. Civil Service Commission, has recently published a 95-page book on the subject "Government Career Service."

"These lectures," according to the author, "are intended to state some of the basic elements of a career service in public employment, and also to indicate the practical way in which such a service can be built in the higher administrative posts in the national government."

Parts of a letter from Chief Forester Silcox, briefly describing the career elements in the Forest Service, are quoted on page 74 as follows:

"A well-trained and systematically supervised personnel is needed now as never before, and likewise a leader to guide and correlate its development.

"In this connection, I believe you will be interested in learning that we have already made a start in the Forest Service. In the first place we have definitely abandoned promotions based wholly or even largely on seniority. We have an intensive training system for all, but give special attention to potential leaders. During the probation period we begin to select those with pronounced aptitude for administration and give them specialized training. This begins with a series of transfers to broaden their background. This is followed by intensive training on the job in inspection, job analysis, planning and supervision. This job training is supplemented by home study courses, conferences and seminars.

"In the field we have a system of merit ratings tied specifically to planned accomplishment. For those selected as potential leaders we keep an analytical accomplishment record in which emphasis is placed on initiative--initiative as exemplified by things initiated, suggestions made and ideas advanced. Training for these men does not end with their junior period. It is continued indefinitely, although it becomes less and less direct as time goes on."

ARBOR DAY

(From "The Kalends", published by The Williams & Wilkins Co., Baltimore, Md.)

It was Joyce Kilmer who put into words what many think of a tree. Most of us, however, have esthetic interpretations of a tree. We ponder too much upon Kilmer's statement of the fact that "only God can make a tree". True, but did not the same God give us the power to plant trees? Certainly, man has used his prerogatives to destroy them--especially in America.

It is well known that all over the United States Arbor Day has become associated with civic and economic ideas as well as with those purely esthetic. It is good that the planting of trees by school children seeks to impress us with the beauty of trees and their aid in the improvement of school grounds, parks, and memorial groves.

Appreciative as one may be of the esthetic value of Arbor Day, as taught to the school children, he should think a bit above, or below, the esthetic value and realize the absolute necessity of reforestation if this nation is to endure the ages. You smile? Consider China! Denudation of her forests is the chief cause of her famines of today, and likewise of her humiliation by Japan.

By reforestation is meant not the planting of a tree by school children here and there, and the singing of patriotic anthems, but rather projects involving the reforestation of mountainsides now denuded of great forests of pine, fir and various hardwoods, and that should never fail to be a source of necessitous wood.

Let the children be taught that the Arbor Day tree is not only a thing of beauty in itself, but that it is also a symbol standing for the vital necessity of the forest in the life of America.



SERVICE BULLETIN

CONTENTS CONFIDENTIAL

WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES. IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT ***THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY **** TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER

Theodore Roosevelt

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Washington, D. C.

July 22, 1935

LATEST DEVELOPMENTS IN THE C.C.C. EDUCATIONAL PROGRAM

By H. R. Kylie, Washington

Much has been accomplished since the organization of educational work in ECW camps early in 1934. There has been, however, a curtailment of progress because of deficiencies in equipment and materials. Many men of the supervisory staff with no teacher training were trying to teach classes, and with a lack of materials that would make teaching difficult even for a professional. Text and reference books are scarce in camp libraries, and for some subjects, no material at all is available.

Educational Advisers of the Corps Areas backed by camp advisers asked for help, but the Office of Education reported that no funds were available. However, the Division of Vocational Education found that certain funds allotted for vocational training could be used to provide instructional materials for CCC camps. Activity was begun immediately, since such expenditures had to be made before the close of the fiscal year. Dr. Wright, Assistant Commissioner for Vocational Education and Dr. Marsh, then ECW Educational Director, headed the activities of the Office of Education. A committee of seven specialists in vocational training was appointed with Dr. C. M. Bass as director. The Committee convened about April 15, conferred with Educational Advisers and other officials, and, with the advice of the field men, decided that the material to be prepared was to be instructional help and materials for teachers, rather than texts and materials to be used by student-enrollees.

Forest Service officials supervising Emergency Conservation Work have felt the need for special emphasis upon teaching forestry and conservation in the camps. Many of the foresters in the Washington Office have been especially interested in educating the enrollee, particularly in forestry, primarily for the benefit of the individual, and secondarily perhaps on account of the unusual P. R. value to the Service. Being invited by this special educational committee to assist in the preparation of this material, ECW officials of the Forest Service made plans to cooperate as far as possible. The writer was placed in charge of the CCC Educational work, and after conferring with members of the Committee, outlined the courses. Two men, G. H. Hieronymus, and A. G. Hall, were chosen from the ECW field technicians and detailed to Washington, and the work got under way about May 10. These men have been associated with ECW camps since their beginning and were well fitted for the job. The completed lessons were turned over to the Committee June 15.

The Committee from the Office of Education has finished its work. Fifteen courses

were chosen as most interesting and useful to enrollees. Instructional outlines and lesson plans have been prepared in these subjects. A Manual for instructors will accompany these outlines and references have been suggested which directly relate to the subject. The fifteen subjects outlined are as follows:

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|---|---|
| 1. Agriculture | 9. House Wiring |
| 2. Automobile Repairing | 10. Elementary Masonry
and Bricklaying |
| 3. Automotive Electricity | 11. Mechanical Drawing |
| 4. Carpentry | 12. Photography |
| 5. Concrete Construction | 13. Radio Servicing |
| 6. Cooking | 14. Soil Erosion |
| 7. Conservation of
Natural Resources | 15. Plane Surveying |
| 8. Forestry | |

These outlines consist of (a) an orientation course of twelve lessons designed to cover the subject generally, and (b) a second unit of twelve lessons handling the subject from a purely vocational angle. Specific job analyses and development of skills is the object of the second unit.

We have carefully prepared these units in Forestry. The Committee cooperated fully and while the Forest Service largely handled the technical material, the Committee of Vocational Training experts decided upon the methods of presentation. In addition to these two units, a third forestry unit of twelve lessons in the care and use of forestry tools prepared by a member of the Committee has been revised by this office.

We have received helpful suggestions and criticisms on these lessons from members of the Washington and Region Seven Offices, and the completed material is ready for printing. These outlines will be printed in sufficient numbers to supply all camps, Regional and State offices with an ample supply August 15, when the new camps will be ready for their material.

Tentative plans are being made for further education in Forestry in the hope that necessary funds may be obtained. These plans will be submitted to the Regions for criticism and suggestions in the near future. Supplementary material for the courses already completed is especially needed and many other phases of forestry education for Corps members could be presented if found desirable. A very desirable adjunct to this CCC Education, in fact it seems to some of us a necessity, is training camps for foremen and instructors. We might call them "CCC Conservation Colleges". At present we are doing some experimental work in visual education consisting of still pictures synchronized with sound. The field is big, the opportunities expanding, and our problem has become one of selection. We hope for support in developing some of these opportunities for further education of the enrollee in line with Service opinion as to how he should be educated, and we shall presently ask the field for advice and assistance in this particular field.

SHELTERBELT PLANTING MAKING PROGRESS

Although less than a year old, the Plains Shelterbelt Project is making real progress. A report just received by Acting Director Paul H. Roberts from the several State Directors states that 125 miles of shelterbelt plantings have been completed in the six States traversed by the zone. An additional 4,800 acres of special tree planting on 1,800 farms, has also been completed. This latter planting was made in cooperation with local farmers.

On the 552 acres of land now under lease for nursery purposes, seeding is being rapidly completed, and a number of the species are already up. Barring extreme weather conditions, or unforeseen insect infestations, it is expected that about 75 million seedlings will be produced.

The work already accomplished through direct employment has resulted in a total of 25,000 man-days. The men for accomplishing this work have been secured in the localities where the plantings were made, and were employed through the local directors of the National Reemployment Service.

Furthermore, the producing and treating of fence posts for the strips planted this spring have resulted in 2,500 man-days of work at the points where they were produced. Fence construction on these strips, to be completed before July 1, will provide about 2,300 man-days in addition. This, with the amounts above mentioned, makes a grand total of 29,800 man-days.

North Dakota with over 35 miles of strip plantings has the largest mileage. South Dakota with 28, and Kansas with 24, are close contenders. The mileage planted this year was very largely restricted by the amount of suitable nursery stock available, both as to age and variety of trees secured.

The wide climatic conditions encountered throughout the Shelterbelt Zone, make it necessary to grow a variety of trees to meet this range of conditions. Each State must therefore plant to meet its own particular needs. Fortunately, due to the wide adaptability of several of the tree species used, such as the green ash, American elm, Chinese elm, bur and post oaks, cottonwoods, hackberry, willows, red cedar, and ponderosa pine, these may be planted throughout the entire area. With a wider variety of trees made available through planned nursery production in the future it will be possible more nearly to meet the conditions of each particular locality in the composition of the tree strip plantings. - Shelterbelt News Release.

DIRECT SEEDING

By Hardy L. Shirley, Lake States For. Exp. Sta.

Munns' article "On Mice and Men" in the February 18, 1935, Service Bulletin, seems to have aroused interest in the possibilities of direct seeding. Before this interest is dissipated in a new splurge of road building and other construction work, it might be worth while to present briefly the status of this work at the Lake States Station.

Direct seeding experiments were introduced in the first permanent sample plots established by the Lake States Station in 1926. Since 1930 regular spring and fall seeding experiments have been conducted on the Chippewa and Superior National Forests in Minnesota and on National Forests and private lands in Wisconsin.

Seeding has been tried on some 55 separate plots located on nine different ranger districts and covering a total area of about 200 acres. From all these plots we have learned a host of things which should not be done, and a few which should if success is desired.

Ground preparation is essential and, of many methods tried, plowed furrows thoroughly settled are best. Scalped spots invite investigation by birds and rodents which will visit the spots as soon as the sower is out of sight. Careful sowing and covering is required. Fall sowing allows the seed to after-ripen during winter, which results in prompt vigorous germination in early spring. This greatly reduces one of the chief hazards to direct seeding, viz. unfavorable moisture for germination. However, unless protected, fall sown seed are subject to greater losses from birds and rodents. Early spring sowing of small seeded species which germinate readily has given satisfactory results even when not protected. The toll of rodents increases with increasing size of seed. Red lead, repellent sprays, and even poisoning have been unsuccessful in protecting seeded areas. Conical wire screens of hardware cloth are easily handled and, if not disturbed, provide complete protection. Seeding

is not adaptable to brushy areas since the hardwood leaves will smother the seedlings over winter. Probably only one out of 20 seeds sown has a chance to grow, so ample, fresh seed of high quality must be used. The Russians sow Scotch pine at the rate of 4 kilos per hectare - over three and a half pounds per acre. Good results with jack pine have been obtained with one pound per acre. After the seedlings are well established, they withstand drought fully as well as planted trees. During the 1933 drought, a seeded area had 47 per cent stocking in the fall while an adjacent area planted at the same time had only 35 per cent. Jack pine sown in the spring of 1932 on the Moquah unit of the Chequamegon National Forest, are 8 to 12 inches high at three years of age, and compare favorably with the adjacent plantation in percentage stocking.

Inasmuch as the past five years have, for the most part, been unusually dry, the degree of success obtained is quite promising. Best results have been obtained when adequate spring rains occurred. Establishment has been particularly good on heavier soils and moist sites.

Sowing this spring was done at the rate of 2 acres per hour, using a garden seed drill and sowing one-half pound of jack pine seed per acre, which exclusive of furrowing represents a cost of about \$1.55 per acre.

CCC ACCOMPLISHMENTS TO APRIL 1, 1935

The following principal items of work were completed by the Civilian Conservation Corps from April 17, 1933, when the first camp was established, to April 1, 1935, according to a report recently issued by Robert Fechner, Director of Emergency Conservation Work.

Two hundred and ninety-one million trees planted; most of them on denuded areas.

Sixty-seven thousand miles of service roads and trails constructed through timbered areas principally for fire protection. (Of this amount 51,000 miles were truck trails.)

Thirty-three thousand miles of telephone lines built into the nation's forest and park fire detection systems.

Thirty-eight thousand miles of fire breaks opened up through forested areas.

Reduction of fire hazards over 1,143,000 acres.

Two thousand two hundred lookout houses and lookout towers constructed in forests and parks for fire detection.

Forest stand improvement work completed over 1,841,000 acres.

A total of 11,250,000 acres covered in campaigns to control rodent destruction.

A total of 4,824,000 acres covered in campaigns to reduce losses caused by beetles, moths, and other insects.

Tree and plant disease control work conducted over 3,929,000 acres. (The white pine blister rust which has threatened to destroy large sections of valuable pine stands was the principal disease fought.)

One million, one hundred and forty-four thousand check dams built in gullies to control soil erosion.

Flood control work completed included topographic surveys of 127,651,839 square yards, the clearing of 23,000,000 square yards of dam sites and river banks, the movement of 4,710,000 cubic yards of earth fill in dam construction work, the excavation of 280,000 cubic yards of rocks and the movement of 789,000 cubic yards of earth fill.

Completion of timber estimating surveys over 23,000,000 acres.

Construction of 30,500 foot, horse, vehicle and stock bridges.

Improvement of 27,000 acres of public camp grounds for recreational purposes.

Thirty-one thousand miles of roadsides and trailsides cleared up as a fire prevention

move and 132,000 acres cleared up for purposes other than fire prevention.

Among other items of work completed were the building of 23,000 buildings and other structures, the construction of 8,494 tool houses and boxes, the development of 3,372 wells or springs, the construction of 2,627 reservoirs for wildlife or stock, the building of 9,500 miles of fences, the expenditure of 592,526 man-days on tree nursery work, the revegetation of 41,804 acres of range lands, the eradication of poisonous and other types of plants from 142,000 acres, the improvement of 116,000 acres of lakes, ponds and beaches, the construction of 3,336 ponds for fish and birds, the construction of 1,159 recreational dams and the construction of seven air-craft landing fields.

In addition to their regular construction work, the CCC devoted hundreds of thousands of man-days to maintenance work. In this connection they maintained 49,000 miles of telephone lines, 19,700 miles of fire breaks and 91,000 miles of truck trails.

The present value of the work completed by CCC personnel to April 1, 1935 is estimated to be approximately \$428,000,000. The Department of Agriculture evaluates the work done under its supervision at \$350,000,000. The Department of the Interior estimates the value of the CCC work done under its supervision at \$71,000,000. The value of the work completed under the supervision of the War Department is estimated at \$7,000,000.

NATIONAL RESOURCES COMMITTEE REPLACES NRB

By E. A. Foster, Washington.

"To provide a means of obtaining information essential to a wise employment of the emergency appropriation," and by Executive Order of June 7, effective June 15 the National Resources Board became the National Resources Committee.

The functions and duties as provided by the Executive Order are three-fold. The third, which is in addition to the functions of the former Board, may fill a long-felt need for a central clearing house for information on Federal land programs.

These functions and duties as stated in the Executive Order are:

"(a) To collect, prepare and make available to the President, with recommendations, such plans, data and information as may be helpful to a planned development and use of land, water and other national resources, and such related subjects as may be referred to it by the President.

"(b) To consult and cooperate with agencies of the Federal Government, with the States and municipalities or agencies thereof, and with any public or private planning or research agencies or institutions, in carrying out any of its duties and functions.

"(c) To receive and record all proposed Federal projects involving the acquisition of land (including transfer of land jurisdiction) and land research projects, and in an advisory capacity to provide the agencies concerned with such information or data as may be pertinent to the projects. All executive agencies shall notify the National Resources Committee of such projects as they develop, before major field activities are undertaken."

The personnel of the National Resources Committee and its advisory committee remains the same as that of the National Resources Board, viz.: National Resources Committee - Secretaries of Interior (Chairman), War, Agriculture, Commerce, Labor, the Federal Emergency Relief Administrator, and Frederic A. Delano, Charles E. Merriam, and Wesley C. Mitchell. The advisory committee consists of the last three named members of the main committee, with Mr. Delano, uncle of the President, as Chairman.

THE KING'S PINES

By W. A. Dayton, Washington

Those as little versed as the writer in Colonial history will find their fancy intrigued by Albert E. Lowmes' article, "The King's Pines" in The American Botanist for January, 1935. Mr. Lowmes intimates that there still survives near Hiram, Oxford County, Maine, "a magnificent white pine tree x x known locally as 'The King's Pine.'" This arboreal relic harks back to the royal charter of 1690, granted by William and Mary to the Province of Massachusetts Bay, wherein were reserved to their majesties all white pine trees, not on privately owned premises, having a diameter of 2 feet and upwards 1 foot above the ground. Similar reservations were later made by George I, Queen Anne, and George II. All such trees, the cutting of which was forbidden without a royal license, were marked with the King's "Broad Arrow," -- a partial prototype of the Forest Service marking hatchet. The object of this regal protection was to provide ample material for masts and spars for the British Navy.

YE EDITOR DISCOVERS

In order to develop and adapt specialized equipment adequate for the particular needs of the Service, the Forester has decided to establish a laboratory where work of this kind can be carried on. Spokane has been selected as the location of this laboratory, where the work of developing new and better equipment for meeting fire control and other Service problems will be headed up.

"Geographically, Spokane with its proximity to Region 6, its not great distance from northern California, and especially its nearness to the extremely bad fire country of both Regions 1 and 4, is the best location from a Service-wide point of view," the Forester said in a recent letter to R-1. "These considerations together with the excellent Forest Service shop facilities at Spokane seem to make it the best location for a central unit of the proposed type."

The laboratory when established will be under the supervision of Regional Forester Kelley, but the Forester has requested that in view of the Service-wide character of the project his Fire Committee, with the Regional Forester acting as chairman for this activity, draft the objectives and program, and prepare a roster from which he may select, if possible, an unusually well-qualified leader of the enterprise. A meeting of the Committee to consider these subjects will be held as soon as it can practically be arranged.

"In order not to complicate the project at the present time," the Forester writes Regional Forester Kelley, "you will probably not wish to branch out over too much territory. I am hopeful, however, that eventually there may be associated with the Laboratory, a School of Fire, at which will be drilled into selected leaders those suppression techniques mentioned in my Fire Policy circular of May 25, and other old and new practices which may be known but are far too infrequently used. I am not sure but that the selling of these techniques, and the use of the equipment which you will be working on, to the field forces will be found to be one of the most important phases of this undertaking."

An institution of this sort, properly led, staffed and equipped, and provided with definite objectives, the Forester believes, would systematize attack on the whole field of administrative equipment research, not only at the laboratory itself but in other Regions as well, and make progress depend on plan and design rather than on accident.

The Forest Committee of the National Research Council is undertaking a comprehensive inventory of research projects carried on by various forestry agencies. It is planned to obtain from all the Forest Schools, State Forestry Departments and other institutions working in the general field of biology, Forest Experiment Stations, and similar organizations, a critical statement of the investigative work which is now being carried on. The Forest Committee has asked the Forest Service to prepare the data for the work done by the various Forest Experiment Stations and for all such investigative work under way in Alaska, Hawaii, Puerto Rico, and the District of Columbia.

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According to a news note issued by the New York State Conservation Department, John Lester Patterson of Reesa Gap, charged with setting a forest fire on Wurtsboro Mountain, has been found guilty on a malicious mischief charge, following a jury trial in Sullivan County Court.

Patterson's case was an unusual one, says the Conservation Department, in that it is the first time on record that a person starting a forest fire had been discovered and identified from the air. During the afternoon of April 22, this year, Patterson was seen starting a forest fire by Albert L. Leo-Wolf, pilot of the Conservation Department's forest fire patrol plane. While on patrol duty, pilot Leo-Wolf discovered a long string of fire burning near the top of Wurtsboro Mountain, and near it, an individual he later identified as Patterson. After reporting the fire by radio, Mr. Leo-Wolf continued his patrol. Returning to the fire he found that Patterson had left but located him from the air at a nearby cabin. By the use of radio this information was relayed and resulted soon after in his arrest.

Roy Headley says he would like to see this story given wide publicity in the West.

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Commemorating 50 years of conservation in that State, the New York State Conservation Department will depict conservation development during a two day program to be held in the Adirondacks, July 20 and 21. The celebration will include an elaborate electrically illuminated forestry exhibit, portraying different phases of conservation development, particularly in the forests; a Pageant of Lakes, which will move in line formation around the forty miles of shore line extending from Old Forge to Inlet and back on the Fulton Chain of Lakes; diversified sports; outdoor religious services; and a demonstration of State Forest Ranger fire fighting apparatus. Each county in New York will celebrate this silver jubilee. The Governor and other notables will participate.

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Another member for the new Rocky Mountain Forest Experiment Station has been selected. This is Ray F. Taylor, who has been assisting in the Division of Silvics for the past year. Dr. Taylor goes to the new region with a wealth of experience behind him. A graduate of the University of Washington, he went to Alaska where he worked on a number of forest projects and for several years had charge of Research in that region. In 1934 he received his doctorate from Yale University and for the last year has had a varied administrative experience in the Washington Office.

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Among the visitors to the Washington Office is T. J. Mosley of the Forest Products Laboratory, who is at the present time engaged in giving the Shelterbelt report its final review before it is published. The report is to be printed in a large folio size and will be available in only a limited edition. It is hoped that it will be possible to re-print sections of the report as separates.

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Timber sale receipts, exclusive of products sales, trespass and the value of timber cut in exchanges, increased by \$186,000 in F. Y. 1935. Losses of \$180,000 and \$21,000 in Regions 6 and 3, respectively, were more than balanced by gains in the other Western Regions. The Eastern Regions, especially Region 8, had increases totaling \$164,000, and Region 8 stands next to Region 6 in amount taken in, with \$324,000 to its credit. For all Regions, the total of \$1,685,000 is more than double the corresponding figure for F. Y. 1933, which covered the bottom of the depression.

USE OF TWO WAY PORTABLE RADIO IN FOREST SERVICE

Radio development has gone a long way since 1916 when Ranger Warner at the Blue Ranger Station established code communication with Ray Potter in Clifton, a distance of 30 miles. A few years later Slonaker attempted to hook up the Aravaipa Ranger Station with Safford using remodeled army voice sets. The attempt was unsuccessful. Region One announces that this season it will have 140 radio stations. There will be 30 central dispatching points and the remainder will be portable sets which can be set up and put in operation in fifteen minutes. The portable set is so small it can be carried in a cantina and the semi-portable can be packed on a horse. The sets have been in use on the Crook for about two years as communication between CCC base camps and spur camps and have proven satisfactory both to the Service and the Army. That has been the only communication that two full period camps have had. Ed Carr in the Jones Water Camp carried on conversation with rangers and guards in California and once with a point in Oregon. Even the portable set will reach south central California. - From R-3 Bulletin.

LOW TEMPERATURE AID IN INSECT CONTROL

Further studies conducted by the Bureau of Entomology and Plant Quarantine show that western pine beetle larvae are killed by low temperatures. Recently John M. Miller of Berkeley found the western pine beetle larvae are killed by temperatures ranging from 5° - 7½° F. At the lower temperature all larvae are killed by an exposure of one hour. At higher temperatures prolonged exposure is necessary. Larvae exposed at 0° F. for 6 days or more were unable to pupate and complete development even though they were active after being brought to temperatures around 75° F. In Idaho, Entomologists A. L. Gibson and T. T. Terrell found that mortality ranged from 40 to 84 percent in areas having an extremely cold winter. Other areas, where the winter was warmer, showed mortalities ranging from 9 to 14 percent.

Somewhat similar results were obtained with larvae of the locust borer by Dr. Ralph Hall. He found that the 1935 winter mortality of the locust borer larvae amounted to 8 percent.

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SERVICE BULLETIN

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WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES. IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT *** THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY ** : TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES. WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER

Reserve Resources

Vol. XIX No. 16

Washington, D. C.

August 5, 1935

ON THE 1937 ESTIMATES

(Excerpts from the Forester's Memorandum to the Secretary submitting Appropriation Estimates, F. Y. 1937.)

Forest lands, with the National Forests as a nucleus, have done far more than play a vital part in recovery; they have helped materially to lay foundations for permanent economic prosperity, as well. So clearly is this recognized, so vital is the public need, and so great the opportunities, that Forest Service estimates for 1937 are prepared on the basis of building with assurance on those firm foundations already laid.

To plan thus is definitely in the public interest. For almost one-third the land area of the continental United States is chiefly valuable for forest purposes; forests and forestry are vital to the agricultural economy of the nation; forest influences, resources, and work have real and definite meanings for people, country-wide. Thus, our forest problem is clearly a social one; the real purpose of conservation policies must be to make forest lands capable of permanently supporting their fair share of the nation's population; of contributing, widely and wisely, to a sound, stable, economic and social structure.***

It is on this basis - rather than on one which might conceivably provide for the status quo (without material progress in caring for existing or new physical properties or in meeting social obligations and opportunities) that our estimates for the fiscal year 1937 are prepared.***

I have, Mr. Secretary, no way of knowing the general financial policy of the Federal Government for 1937. But I do know that many of the current operations of the Forest Service have depended for the last two years - and still depend, in F. Y. 1936 - on grants from Emergency appropriations. And I am sure you realize, as I do, that Emergency funds are entirely too uncertain and unpredictable to be used as a basis for work which is vital to any major, long-term program; that for such programs it is highly desirable that the Forest Service get back at the earliest possible moment to operations financed by regular appropriations.

And I feel it incumbent upon me forcibly to present to you the need for considering Forest Service estimates on a basis which departs fundamentally from past practices in that it takes definite cognizance of existing social obligations and opportunities. For if we still have with us that unemployment which now seems certain, allocation of funds represented by the Forest Service estimates for 1937 can maintain a large number of people at an exceedingly low cost during the transition period and can, besides, make such progress in increasing and developing Federal forest properties that these people may ultimately become self sustaining again.

FOREST WINDOWS

By A. L. MacKinney, Appalachian For. Expt. Sta.

We may frequently look through a window and see things which would remain hidden were the window not there (apartment dwellers please note). Consider, then, for wider use the "forest window" which the Chesapeake Corporation of West Point, Virginia, has recently inaugurated in its educational campaign. These forest windows which have been established by the company's forestry department in "Tidewater", Virginia, are openings into the woods along the highways, into which passers-by may look and see things about the management of forests which they, in most cases, never knew before. These openings are usually 1 to 2 acres in size and have been treated in such ways as to emphasize principles of good forestry practice.

Most of the demonstration areas already established have been thinned, selectively cut, or cut over leaving seed trees. The residual trees, in order to draw attention, are strikingly marked with two wide white bands, approximately 10 feet above the ground. In addition, each tree is marked with a small enameled sign giving its size. Near the road in each case there is a large, attractive enameled sign, with a white background and green letters sufficiently large to be read from a car traveling 25-30 miles per hour, which suggests the desirability of leaving seed trees, thinning, or selective cutting.

These areas stand out because they have been "polished up" beyond any possibility of practical forest management, and the woods surrounding them have not been touched. Some might consider this treatment a type of nature faking, but from an educational point of view it is justified, because attention is focused on some one specific thing - usually the type of trees left.

The Chesapeake Corporation is interested in perpetuating the production of a supply of pulpwood from nearby farms, and the educational campaign is already beginning to show results in improved forest practices on farmers' woodlands.

As Winchell would say, "an orchid to them".

SALVAGE AND A FIRE HAZARD IN SOUTH DAKOTA

By E. E. Carter, Washington

In May, 1933, a cyclone swept through the western part of the Harney Forest. On a sharply defined strip 22 miles long (and extending beyond, well into the Black Hills Forest) and averaging over a mile wide, practically all mature timber was knocked down or broken off. Areas of young growth were not seriously damaged, but the equivalent of 14 sections was changed in five minutes from a stand of virgin ponderosa pine of average size and density for the Black Hills region into a horrible tangle of windthrown and broken trees, making the worst possible fire and insect hazard.

None of the local portable sawmill men had been willing to operate so far from the railroad. Also, the market was barely alive in 1933. Salesmanship, persuasion, bargain prices, and finally reduced utilization requirements, important in about that order, were used. Results: the entire area opened up by haul roads and skid trails; most material of merchantable size removed before it was spoiled by rots; relatively little insect damage in the adjoining stands; some revenue obtained; and last but by no means least, the local operators convinced that, in these days of motor truck hauling, their old ideas of accessibility were far too restricted - they are continuing operations in the adjacent green timber which the Forest has been wanting to sell under its management plans but could not. Another Harney working circle has started to roll.

Administrative use to the South Dakota S.E.R.A. has thoroughly cleaned up some of the most dangerous areas, with cordwood removed as well as logs. Then the CCC organization started and, with help, put out a fire that effectively cleaned up another danger spot, but this method of abating hazards is not recommended for adoption elsewhere or again in the Black Hills. The peak of the fire danger is past, although no man on either Forest is breathing easily even yet when he looks at the blowdown strip. But they have gotten away with it so far, and ought to have the satisfaction that comes from a tough job going well and promising to be cleaned up. May we all handle our tough jobs as well!

MORE ABOUT EDUCATION IN THE CCC

By E. M. Simmons, Allegheny For. Expt. Sta.

In the May 27 issue of the Service Bulletin, William Nelson made some very significant statements regarding the educational system employed in the CCC camps. Among other things, he said that the average CCC boy had little or no inclination to learn the type of subjects offered by the educational system, but rather reaped his main crop of education from the Army and Forest Service contacts.

To anyone who has spent time in the CCC this statement is not hard to credit. But is the average Forest Service employee, coming in contact with CCC enrollees, aware of this tremendous responsibility which has been placed upon him? A responsibility, not only to the CCC enrollees to see that they get the most out of their enlistment, but also to the forestry profession to instill into the men the foundation principle of conservation upon which the whole profession is based.

The average enrollee, after putting in his day of work, has little inclination to enter a classroom. Only the more ambitious ones advance in this fashion. However, they all come expecting to work five days a week and are eager to learn all they can regarding the work they are to do. It is here that the Forest Service foreman can do so much. He should not only teach the men how to do the work but also tell them why they are doing it. He can develop initiative and leadership, and, by so varying the character of the work, give them a broad practical training in the elements of forestry. So much for the first responsibility.

The second is equally important, namely that of so instilling the principles of forestry into the men that they will become, in effect, walking billboards, advertising forestry to the United States at large.

To some this idea of advertising may rankle. But there is no reason why it should, since no question of lack of ethics is involved. But, on the other hand, a deplorable lack of efficient business methods is shown if advantage is not taken of this opportunity.

In a nutshell, the situation is like this: The Forest Service has the idea of forestry to sell to the public. The taxpayers are the buyers. They invest. The Forest Service performs the work. And all too often only a few special groups of taxpayers are made aware of what has been done with their money. This makes it harder to sell the idea the next time.

In the CCC, however, are hundreds of thousands of men and boys, many of them the future taxpayers, who, if correctly taught, can be sold on the idea and carry the news of what the Forest Service is doing to all parts of the country. In all fairness to the public, any honest means of advertising, which will demonstrate what is being done with the money invested for forestry, should be encouraged.

SERVICE BULLEIN

It is one of the best ways to increase the popular demand for forestry, thus relieving the Forest Service of the necessity of having to sell the idea, leaving them free to carry out the work required to fill this demand.

If Forest Service employees can be made to feel this dual responsibility, much good can result to the entire nation.

VETERANS VOLUNTEER AID

The following letter was recently received in the office of the Chief Forester:

Dear Sir:

As general chairman of this organization and on behalf of the membership located throughout the United States we hereby wish to volunteer our services in the preservation of our forests and more particularly our assistance to the Division of Forestry in fire prevention.

Thanking you and awaiting your instructions.

Very truly yours,

(Signed) W. H. MURRAY,

General Chairman, The American Railroad
Transportation Corps A.E.F.

The A.R.T.C.A.E.F. is a veterans' organization with approximately four thousand members and with organized posts in every State and in Alaska. The membership represents varied lines of business but a large number are engaged in railroading in its various departments.

Subsequent correspondence indicates that Mr. Murray and his organization mean business. It is hoped that contacts can be made between the various posts and our local field offices which will enable the American Railroad Transportation Corps A.E.F. to give us some real cooperation. - C. E. Randall

AIRPLANE DELIVERY OF FIRE PUMPS

By Howard R. Flint, R.1

A Pacific Pump, type N-No. 1079 was specially packed under my direction in a rubber shock cord suspension, the entire job being done at the Spokane Warehouse. Gross weight of the package was 113 pounds. On July 3, it was attached to a 24-foot Army standard emergency parachute, which had been condemned for human use, and lowered twice from a plane in flight at an altitude of 500 feet to the gravelly, concrete-like surface of Spokane Airport. Although much of our assembly was of a make-shift character, it worked perfectly and the pump was placed fairly accurately each time. In the first descent there was no visible damage to the package or contents. During the second descent the 'chute struck some rough air near the ground and one corner of the wood crate failed, but without damage to the contents other than a slight dent in the gasoline tank. Wind at the time the tests were made was at a velocity of nine miles per hour at the airport station in one corner of the field.

From these tests I am satisfied that we can successfully deliver a Pacific pump, accessories and hose to a forest fire within certain limitations and in case of an emergency warranting such delivery. The limitations referred to have to do with distance from home port, time in daylight hours, cost, and the character of terrain and cover where the pump is needed.

With reference to distance, time, and cost we can place a pump anywhere in Region 1 at a rate of 100 miles per hour and a cost of \$50 per round trip hour flying time, leaving Spokane on one hour's notice or less -- usually on one-half hour notice. All flights must, of course, be completed in daylight and under ordinary forest fire visibility conditions except that the return trip to the home field might safely be made after dusk.

Some limitations in the matter of terrain and cover must be observed. The ideal situation for lowering a pump would be in an opening two acres or more in extent having a reasonably smooth surface, a slope of not more than 50 percent, and a ground cover of grass, brush or reproduction not over fifteen feet tall and free from snags or tall trees. I do not believe it would be practicable to lower a pump through dense stands of trees more than twenty feet tall, in an area bearing more than four or five 20-foot snags per acre or on a boulder-strewn or very steep terrain. Of course, in a good percentage of cases it might arrive safely even under such adverse conditions, but in the case of tall trees or snags it would probably damage or cause a total loss of the 'chute. I now have two suitable 'chutes on hand which have cost us nothing. Additional suitable 'chutes can be secured on the open market at a cost of about \$50 each.

As a result of this test my recommendation is that at least one serviceable pump outfit be kept packed at Spokane Warehouse ready for immediate transport by air. Cost of packing and preparing the 'chute need not exceed \$20 for each unit, with labor and material all available locally.

POSSIBLE EFFECTS OF INCREMENT BORERS ON TREES

By Carl Hartley, Bureau of Plant Industry

It is generally considered that the holes made by increment borers do no damage to a tree. This is probably true under all ordinary circumstances. There are, however, some possible effects that may be worth considering in special cases, as on permanent sample plots. The admission of air may result in changing the rate of progress of heart-rot fungi already established in the tree, or of the vascular parasites which we are finding a good deal more common in the sapwood than we once supposed. The tunnel made by the borer might also enable such infections to spread radially faster than they otherwise could. The *Verticillium* that causes maple-wilt, and the elm-wilt fungi (including the Dutch elm fungus), are things which appear to be transmissible by tools; a disease of red oak sapwood of unknown cause is another example of those that might be so carried.

The likelihood of damage from increment borer use seems too small to require attention in ordinary work in the woods. But where it is especially necessary to avoid any unnatural changes in the trees that are being examined, it may pay to take precautions. One that is suggested is to follow the advice that comes on the direction sheet supplied with new borers, to plug the holes. This should minimize any effect of the tunnel left by the borer, whether direct physiological effect or effect on infections already existing in the tree, though it probably would not prevent resin infiltration. Black locust heartwood plugs are used by the telephone companies in closing holes that are made in creosoted poles in connection with inspection for depth of penetration and in untreated poles in inspection for internal decay. These are approximately 5/16 or 3/8" in diameter, depending on the size of the borer, and are about 3" long. The locust, which presumably contains extractives inhibitory to the growth of most fungi, is more likely to prevent infection spread along the tunnel than would a less durable wood. They can be obtained cheaply. For the depth of hole commonly made in work on standing trees it might be desirable to use 2 or 3 of these or to have longer ones made.

In work with valuable trees, if a core shows a watersoaked or discolored zone, or has a fermented odor, the borer before use on the next tree can be dipped in alcohol, 20 percent formaldehyde, or lysol. Such a treatment will not completely sterilize it, but should kill practically all dangerous material.

YE EDITOR DISCOVERS

The Carl Schurz Memorial Foundation has established a fund to bring about better relationships between America and the German speaking nations. The plan of this organization is to select men in different fields of activity who would be capable of bringing back to their respective countries ideas that would benefit their homeland. Further, there is the idea of bringing about better understanding and international goodwill. The first time this plan was followed with reference to forestry was two years ago, when Ward Shepard made a tour of Central Europe. Last year a group, largely of lumbermen, visited the various Teutonic nations to observe forest practice as it is actually carried out on a scientific basis. This year a group of foresters, largely from the Forest Service, are to participate in the visit. Those selected include the following: L. F. Kneipp, Division of Lands; E. E. Carter, Division of Timber Management; C. L. Forsling, Director of the Appalachian Forest Experiment Station; H. L. Shirley, Lake States Forest Experiment Station; W. N. Sparhawk, Division of Forest Economics; and Aldo Leopold, University of Wisconsin.

The party is composed of men having divergent interests. Messrs. Carter and Forsling will be particularly concerned with forest management; Kneipp with recreation and land policies; Leopold with game management; Shirley with seed control; and Sparhawk with social economics. The group is leaving this country the first of August and will return late in the fall. After a short tour of Germany together, they will break up and each will visit those parts of the various countries which hold most of interest to him. Among the countries to be visited are Germany, Czechoslovakia, Austria, Switzerland, and Hungary. Members of the group may also visit some of the adjoining countries, such as Sweden, Denmark, Netherlands, France, and Italy.

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Educational facilities in the CCC camps are to be virtually doubled to take care of the increased number of young men entering the camps under the expansion program. A total of \$6,000,000 has been allocated for educational work in the camps. This allotment will provide necessary funds for maintaining instructional programs in the 2,916 camps which it is planned to operate under the expansion program. It will also permit the Office of Education of the Department of the Interior to increase the number of camp educational advisers to at least 2,200 and to appoint 76 district advisers to assist in the coordination of the program of instruction.

Howard W. Oxley, recently appointed educational director of the CCC, estimates that approximately 500,000 men will participate in the programs of instruction during the coming winter. The latest reports, he says, disclosed that 176,977 enrollees regularly and voluntarily participated in camp educational activities during May.

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The first of the proposed Forest Service forest homestead projects has been submitted in final form to the Resettlement Administration. This is the so-called Oakridge project within the Cascade National Forest in Oregon. While planned ultimately as a one hundred unit project, the initial plan provides for the construction of only 50 homestead units.

The Oakridge project is situated at the point of concentration for approximately 15 billion board feet of National Forest stumpage, thus assuring a permanent supply of

timber. The project is located near a well developed community consisting of loggers, sawmill workers, and railroad employees, almost all of whom are in the low-income class which the subsistence homestead program was designed to aid. This community is a typical temporary sawmill town without opportunity for the establishment of permanent homes and the part-time farming operations which are needed to supplement the low income from seasonal, intermittent, and fluctuating employment. It is to supply this need that the project has been proposed. Present circumstances do not indicate that adequate living facilities will be provided by private capital because of the low rate of return to be realized from investments in such a development. The existence of the present community, with stores, schools, public buildings, etc., minimizes the need for the construction of these types of improvements in the resettlement project.

Another well advanced project is the one at Basswood, Michigan, which is being proposed as a feature of a new sawmill development by the Von-Platen Fox Company, owner of part of the timber tributary to the community. It would involve the establishment of 113 homestead units. In this case certain details guaranteeing sustained yield management of the privately owned timber remain to be worked out in order to fully safeguard the future of the project and justify the investment of federal funds in it.

A third project for which plans are being drawn aims to establish permanent homesteads and community life in connection with timber operations which will inevitably develop within a year or two in National Forest timber on the Cumberland unit in Kentucky, when present forest development road building programs are completed.

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A very interesting cooperative study of the possibilities for a joint management of a multiplicity of woodlands is being made by Region 9, the Central States Forest Experiment Station, the Indiana State Forester, and Purdue University. The project covers DuBois County in southern Indiana and includes some 50,000 acres of hardwoods practically all in farm woodlands. This county has 17 timber-using industrial enterprises, which use annually 15 million board feet of wood of the kinds produced in southern Indiana. It is hoped that some type of cooperative marketing agreement can be put into effect among the land owners which will permit the disposal of their material to the best possible advantage, encourage selective logging and the application of effective forest practice rules, and gradually lead to the ultimate goal of sustained yield for the entire county.

The timber inventory has now been completed and the much more difficult job of bringing the owners together into a practical and effective marketing association is to be undertaken. If the plan is consummated, its success will doubtless be closely followed by foresters and groups of small land owners everywhere. It may prove to be a satisfactory answer to a countrywide problem.

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Arthur T. Upson has been appointed Director of the Southwestern Forest and Range Experiment Station, succeeding G. A. Pearson, who at his own request is being relieved of administrative duties to devote full time to research. Mr. Upson is returning to government employ after 11 years in trade extension and research with the National Lumber Manufacturers' Association. Graduating in forestry in 1910 from the University of Nebraska, he entered the Forest Service as a Forest Assistant on the Arapaho National Forest, where he subsequently served as Examiner. He was in turn Deputy Supervisor of the Pike, Forest Supervisor of the Arapaho, Pike, and Sopris National Forests. In 1920 he went to the Forest Products Laboratory at Madison, Wisconsin, where he made important contributions to the studies dealing with utilization of little-used species of wood, with results of direct value in the management of the National Forests. In 1924 he resigned to join the technical staff of the National Lumber Manufacturers' Association.

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During L. F. Kneipp's absence on a three months' trip to Germany, Earl S. Peirce will be in charge of the Division of Lands. Peirce, heretofore Assistant Regional Forester in Charge of Lands in Region 9, is being transferred to Washington as Assistant Chief of the Division of Lands.

A TREE PUSHER

The cry of TIMBER-R-R will henceforth be sung out in plural by adding the letter "S" to the last syllable. Instead of a tree, trees will fall on the fire line, the clean-up job, and on the road job.

The tree pusher, which, in action, resembles a cross between a crocodile and a giraffe, is undergoing its initiation on the Kaniksu Forest. The evolution of this species is roughly as follows:

Several years ago, Roy Phillips learned through poor driving or otherwise, that a "cat," if pointed toward a lodgepole and encouraged with a heavy foot on the throttle, would eliminate the necessity of sawing and chopping said tree. Roy turned inventor and designed a bumper affair to be used on the front of the "cat" for pushing over the obstructing timber.

Sutliff, hearing of this machine's performance on road work, decided that "fire" should reap some benefit from the machine age, and he borrowed Duncan's department (the machine shop) and together they built a pusher arm on a bulldozer. The first one proved too light, so a heavier one was built.

The arm projects approximately ten feet ahead of the blade and is attached directly to the bulldozer "A" frame. It works on the same hoist with the blade and raises from six to fourteen feet above the ground. Attachment weighs around 600 pounds. It can be installed on a regular (55) bulldozer in about five man-hours.

Tests: Built 15 chains of right-of-way through fairly heavy windfall to get to snag area on the Lolo Forest. Pushed over 12 snags, seven averaging from 14 to 18 inches in diameter, five averaged 28 inches and the largest, Douglas fir, was 32 inches. Ran up against a green tamarack, 26 inches, which brought the equipment to a stand still, springing the boom. The weakened member was strengthened and the attachment shipped to Kaniksu Forest for a real workout.

In 30 minutes, on first test, the pusher felled eight snags averaging 20 to 30 inches. It cleaned its own right-of-way without help of any sort. Then it poised against a 30-inch tamarack which was tapered down with blue hard pan soil. It was here where the irresistible force met the immovable object and the count was even.

It is estimated that the tree pusher is equivalent to crews of 30 to 50 men if working on cedar, hemlock types; also, in hard species; also, providing that four-man crews with saws cut away the windfalls. - From R-1 Bulletin

MONEY IN RECREATION

As an example of the importance that organized recreation is assuming in modern municipalities, Los Angeles has an income from its recreation department of over \$610,000. The money goes back into operating playgrounds, swimming pools, beaches, mountain camps, and so forth.



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Theodore Roosevelt

Vol. XIX No. 17

Washington, D. C.

August 19, 1935

AUSTIN CARY RETIRES

By A. B. Hastings, Washington

On July 31, Dr. Austin Cary, Senior Logging Engineer, retired from the Forest Service. His career in forestry has been a long and notable one, starting in the nineties, when forestry in this country was at its beginning. Thus, he has had within five years of a half century of forestry experience. A keen observer and sound thinker, his outstanding contribution has been forestry that is practical - that works in the woods.

Doctor Cary secured his A.B. degree at Bowdoin in 1887 and his A.M. degree in 1890 and studied biology at Johns Hopkins and Princeton in 1888-1891. He was an instructor in the Department of Geology and Biology at Bowdoin in 1887-1888, taught during the spring terms at the Yale Forest School in 1904-1905, and at Harvard as Assistant Professor of Forestry 1905-1909. On the industrial side his experience dates back to the nineties. From 1896 to 1904 he was Forester for the Berlin Mills Company, now the Brown Company, Berlin, New Hampshire, having been cited as the first American to hold such a position with a progressive corporation far-seeing and judicious enough to plan for reforestation.

In the field of State forestry he also took a significant part. For the two years 1909 and 1910 he was Superintendent of State Forests of New York. Previous to that, in 1893, he was in the employ of the Maine Forestry Commission. In his work with timberland owners in the South he was constantly mindful of the important field of State forestry and was ready to promote it.

Doctor Cary's first appointment with the Forest Service was dated March 1, 1905, the position being that of expert. His continuous employment, however, did not begin until July 20, 1910. Thus, he was in the Forest Service for an even quarter century.

Although Doctor Cary spent a short time in Region 6, the bulk of his work has been among the large timberland owners of the South and of the Northeast. He worked intimately in the preparation of management plans for literally hundreds of private owners in these sections, many of whom today give him full credit for starting them off in the untried field of scientific forestry practice. He became an authority on conservative woods practices of turpentine timber, and his influence along this line upon the whole naval stores industry was potent and widely effective. His keen grasp of practical forestry, unflinching good sense, modesty, and determination have perhaps been at the root of his almost universal success in dealing with forest landowners. His "Manual for Northern Woodsmen" has been printed in several editions and he has been a large contributor to technical and trade journals.

May his remaining years be many and may they be filled with good health and happiness. We hope and believe that his contributions to forestry will not come to an end with his retirement from active employment in the Forest Service.

MORE BURNING

(Summary and Conclusions from Technical Bulletin 38, "Effect of Burning on Kansas Bluestem Pastures", Kansas State College of Agriculture, November, 1934.)

The experiments were conducted on two areas of bluestem pastures near Manhattan, Kansas, where the mean annual precipitation is 31.49 inches. Big bluestem (Andropogon furcatus) and little bluestem (Andropogon scoparius) are the dominant grasses on both areas. These two grasses are about equally divided in the Casement pasture area, and little bluestem comprises about 50 percent of the vegetative cover in the college pasture. Other important grasses in the two areas include Indian grass (Sorghastrum nutans), side oat grama (Bouteloua curtipendula), prairie June grass (Koeleria cristata), prairie dropseed (Sporobolus heterolepis), Kentucky bluegrass (Poa pratensis), and switch grass (Panicum virgatum).

The major portion of the experiments were started in 1927 to obtain information on the effect of burning on (1) yield of vegetation, (2) control of weeds and brush, (3) quality of the vegetation, (4) soil moisture and soil temperature, (5) composition and succession of the vegetation, (6) starting growth in the spring, and (7) effect on the fertility of the soil.

The experimental plots were burned annually in the late fall, early spring, medium spring, and late spring. The college area contained an additional burning series that was burned in alternate years. Each burning series contained an unburned or check plot.

Burning decreased the yield of the mature vegetation. The yield was least on the plots burned in the late fall. The plot burned in the early spring was next, followed by the plot burned in medium spring. The plots burned in the late spring yielded more mature vegetation than plots under any of the other burning treatments.

Burning had little effect in controlling weeds and brush unless it was done in the late spring or after April 20. The effectiveness of burning is largely dependent upon the time the plants start growth in the spring and the movement of their food reserves. If the low point in the organic food reserves is later than May, as is true of sumac, burning is not an effective means of eradication.

The bluestem grasses on the burned plots were more leafy during the early part of the growing season than on the unburned plots. The nutritive content of the forage depended upon the amount of growth. In early June the protein content was highest for the vegetation obtained on the plots burned in the late spring, followed by the forage on the unburned plot. The vegetation growing on medium spring-burned plots ranked third and the vegetation from the fall and early spring-burned plots had the lowest protein content.

The moisture content of the soil on the unburned plot was higher than on any of the burned plots. The time of burning had some effect on the moisture content of the soil. During 1933, an extremely dry season, the moisture content of the soil was greatest in the plots burned in the late spring, followed by those burned in the medium spring and lowest in the plots burned in the fall and early spring.

The plant population was greatest on the plots burned in the late fall and least on those burned in the late spring. The plots burned in the late fall and early spring had a greater number of plants than the unburned plot. The plots burned in the late fall had

a successional change toward the little bluestem, while in the plots burned in the late spring the change was toward the coarser grasses, mainly big bluestem. Kentucky bluegrass increased on all the unburned plots and was either decreased or was eliminated on all the burned plots.

Burning stimulated early growth in the spring, owing mainly to the higher soil temperatures. The plots burned in the early spring and late fall contained a greater vegetative growth until early in June, when moisture rather than temperature was the controlling factor in the growth of the vegetation.

Burning did not cause any decrease in the organic matter or total nitrogen during a five-year period. The accumulation of organic matter and total nitrogen in prairie grassland is governed more by root development than by the accumulation of surface material. In these experiments the burning was always done when the soil was moist. If the burning had been done when the soil was very dry, the results might have been different.

TWENTY YEARS IN THE FOREST SERVICE

By E. W. Tinker, R. 9

On July 8, I was privileged to have a little mental celebration, as on that date I had completed twenty years in the Forest Service. During those twenty years I have probably taken two months leave of one sort or another. It seems but yesterday that I arrived at Deadwood, South Dakota, from the wilds of British Columbia, and I still wonder where the time has gone.

One reflects on the progress the Forest Service has made and where twenty years more will take us. After twenty years we apparently are still faced with a mammoth improvement job. After twenty years we are still dealing with the basic principles of fire protection. Along both lines we have made great strides but much remains to be done. After twenty years I am still wondering if forestry is a craft or a profession.

More and more, particularly during the past five years, have I been impressed with the difference in conditions and requirements as between National Forest Regions.

On July 14, the Service Bulletin carried an article entitled "The Ranger District of the Future" by Norman L. Norris of the Sequoia National Forest. I do not know Mr. Norris, but I was very much impressed with his vision of what is needed in the future. No doubt this vision was based upon conditions on the ground. If Mr. Norris were equally familiar with conditions in Region 9, I am sure he would have painted an entirely different picture. As a fundamental policy, every dollar that can be obtained must go into the development of land and the raising of the production of the National Forests in wood products. Our fire-swept areas and our market conditions clearly indicate the necessity for such procedure and plans.

During the past twenty years in retrospect and judging the future on the basis of the past, I still have hopes that under the conditions existing in this Region, forestry will become a profession and all the skill of the professional forester will be required. In my judgment, the public expects more than protection of lands, under conditions in this Region at least, from the Forest Service. This expectation is shared in by such statesmen as we have. In this territory the planter and the silviculturist are laying the cornerstone of future policies in the management of forest land. If the twenty years contact I have had with the Forest Service work has led me to any conclusion, it has been to the effect that the next great stride the Forest Service will make will be in the practice of forestry upon National Forest lands.

DON'T LET A "NORMAL" DECEIVE YOU

By G. L. Hayes, Northern Rocky Mountain For. and Range Expt. Sta.

Foresters use "normals" of weather records in connection with many phases of their work. In reporting on fire danger they refer to the departure of humidity in terms of the normal. In predicting possible growth of timber or forage, or in planning for the most suitable use of lands they consider normals of precipitation and temperature.

The precipitation value now in common use as the normal is the arithmetic average, or mean, computed by totaling the precipitation at a place over a period of years and dividing the total by the number of years. By nature, this sort of average is strongly affected by a few values which are extremely high or extremely low, and precipitation records in temperate climates usually contain a wide variation of values. This is illustrated in the precipitation records of Spokane, Washington, where the mean precipitation for September is 0.88 inches. During September, 1927, Spokane received 5.58 inches of rain. If this figure were omitted from the 54-year records, the mean would be 0.79 inches. Consequently, this figure raised the 54-year mean for this month by 0.09 inches, or 12 percent. This same figure raised the 10-year mean for 1921-30 from 0.47 inches to 0.98 inches, a difference of more than 100 percent.

A value that is affected in this way by a few instances of extreme variation is not typical. Consequently, those who interpret the mean as a value that can be expected with some degree of certainty are deceived.

A value that is truly typical is the median. This is the value of the middle item when all the items are arranged in order of size. Median precipitation for any month, for example, is the quantity of precipitation which has a 50-50 chance of being exceeded in that month. The median is sometimes known as "the probable value." The 54-year median for September precipitation at Spokane is not changed at all by the high 1927 figure. The 10-year median for September rainfall for the period 1921-30 is changed only from 0.44 to 0.52 inches by the presence of this extreme value. This illustrates the freedom of the median from the influence of extreme cases.

The significance of the difference between the mean and median is well illustrated by other Spokane precipitation records. For January, for example, the mean precipitation is 2.07 inches; the median, 1.89. The mean exceeds by 9 percent the quantity that is probable 50 years out of 100. The mean quantity is received but 43 years out of 100. Still more striking are the differences for the summer months. For June the mean is 1.24 inches, the median but 0.86 inches. The mean exceeds the probable value by 44 percent, and has occurred in only 26 percent of the years covered by existing records. In other words, mean precipitation for June is received but once in 4 years. Clearly, this is not the common conception of normal occurrence.

For August the mean is 0.57 inches, the median is 0.37 inches. The August mean is 54 percent greater than the probable value, and has been received in but 37 percent of the past 54 years. Is this a normal? It certainly is not a typical value or a usual one. Examination of the records for all months shows that in every case the mean or so-called "normal" is greater than the median. The differences, based on the median, range from 5 to 54 percent. The chances of occurrence of the mean range from 26 to 46 percent.

Consequently, if you as a reader desire to know the typical amount of precipitation for any month, do not be deceived by the "normal". It cannot be expected with any degree of certainty. If as a writer, you desire to present the monthly rainfall value that is typical or most probable, choose the median, not the mean.

AIRPLANE WATER-DROPPING TESTS MADE BY R - 1

As a result of experiments conducted last fall in Region 1 to determine the feasibility of lowering water from an aerial vehicle to a going forest fire, Howard R. Flint outlines the following conclusions and recommendations:

CONCLUSIONS, POSITIVE

Because of great cost of construction and operation, present-day rigid airships of the Zeppelin type are out of consideration for forest fire purposes.

No autogiro or giroplane licensed in the United States at the date of this report is suitable for lowering water to forest fires. Future development in this type of flying equipment should be closely followed.

Water in quantities up to 1000 pounds gross, approximately 100 gallons, can be transported to forest fires in single-motored, stock-model airplanes in licensed service at this time.

The most suitable plane available at this time for transport of water to forest fires is the now technically obsolete Ford tri-motor, having a pay-load capacity of 3600 pounds gross, approximately 350 gallons, net, of water.

A plane having cruising radius of less than four hours is not adapted to this sort of work in R-1. Six-hour radius is desirable.

Conventional, modern stock-model planes adapted to transporting water to forest fires have a "stalling speed" of 55 to 68 miles per hour, too fast for optimum results.

No modern, conventional type airplane is sufficiently maneuverable when loaded to fly closely around the perimeter of a circular fire one acre or smaller in extent and maintain a tenable position. None of the larger planes could closely circumnavigate the perimeter of a five-acre fire.

It is decidedly unsafe to fly a loaded plane at or near stalling speed within 50 feet altitude of rough ground or within 50 feet above standing snags or trees.

The plane otherwise suitable and possessed of the lowest stalling speed will be best adapted to delivery of water to forest fires.

Water can be lowered to forest fires either confined in a container or by discharge from a tank in the plane through a hose.

Water in a cheap ten-gallon metal container can successfully be lowered from a plane by means of a simple 18-foot cargo parachute, but this method calls for fragile equipment and is, therefore, relatively expensive.

The most promising method of lowering water to forest fires from a conventional airplane is by means of a free-falling metal container.

Because of relatively high stalling speed and lack of maneuverability, the discharge of water to a forest fire line through a hose from a tank in a conventional type airplane is a difficult and unpromising project.

No definite and reliable information is available in regard to the quantity of water per unit of fire line required to give desired results when the water is applied in effective manner by men on the ground.

CONCLUSIONS, TENTATIVE

Some tests with a small, nonrigid dirigible airship may be warranted if they can be arranged in cooperation with the U. S. Navy or with the Goodyear-Zeppelin Corporation of Akron, Ohio.

It is probable that a special container can be built which, without parachute, will carry ten gallons of water to the ground without bursting on impact.

To discharge water from a plane rapidly enough effectively to check a fairly brisk, small one-acre or less forest fire will probably call for a discharge hose at least four inches in inside diameter, possibly larger than that. Such hose will be heavy and difficult to handle.

A nozzle on the discharge end of the hose appears to exert a desirable influence on the distribution of the water discharged.

RECOMMENDATIONS

Before more work is undertaken from the air, a foundation for it should be laid on the fire line. For example: We have demonstrated that water in ten-gallon containers can be put down close to any selected spot on a small or a large fire. Before any more definite consideration of such a project is advisable, we need to know how many ten-gallon cans of water (or chemicals) it will require to give the desired result on a unit of fire line when the water is applied in the most effective manner by men on the ground. This is a problem the solution of which in no way involves use of an airplane. It should be undertaken in the field on a going fire as early in the season as possible and in several important cover types.

Further search should be made for a container which in proportion to its weight is highly resistant to impact. This can well be carried on as a task incidental to aerial surveys and fire control.

Based on the information we now have, field tests in lowering water in containers to going fires should be undertaken during the coming season. This can be carried on as a task incidental to other aerial work.

A field test of a small, nonrigid airship should be undertaken either with the Navy or with the Goodyear-Zeppelin Corporation. Negotiations with the Navy can probably best be initiated by the Forester's Office. If approval is given, negotiations might well be opened with Goodyear at an early date.

YE EDITOR DISCOVERS

In accordance with recommendations made at the meeting of Regional Foresters and Directors of Forest Experiment Stations in Washington last April, the Forester appointed a committee to develop a program for training Forest Service personnel, particularly in the higher leadership positions. This committee, consisting of Earl W. Loveridge and Peter Keplinger of the Washington Office, Carlile P. Winslow, Director of the Forest Products Laboratory, and Regional Forester Shaw, has for the past month been consulting industrial organizations, Army, Navy and foreign personnel services, and other agencies that have developed systematic training programs. A report of their findings and recommendations is now being prepared. L. M. Correll, Assistant in the Division of Personnel Management in Region 5, has been acting as executive secretary for the committee. It is planned to publish next winter a comprehensive report on the whole problem and the proposed program.

The first meeting of the Forester's advisory committee on the equipment laboratory, which was recently authorized to be established at Spokane, will begin on September 16. The committee will meet at Spokane and draw up a program of projects to be undertaken by the laboratory, as well as consider the vital matters of personnel and financing. It will also have a program of fire control topics to discuss. Membership of the committee is as follows: Regional Forester Kelley, Chairman; E. I. Kotok, California Forest Experiment Station; J. H. Price, Region 5; J. F. Campbell, Region 6; H. T. Gisborne, Northern Rocky Mountain Forest Experiment Station; A. B. Hastings, State Cooperation, Washington; Earl W.

Loveridge, Division of Operation, Washington; T. W. Norcross, Division of Engineering, Washington; and D. N. Matthews, Pacific Northwest Forest Experiment Station.

The Forest Service has pending, (August 7), before the Works Progress Administration the following additional emergency relief projects:

\$15,000,000 for forest highways
\$ 1,710,177 for Shelterbelt Project
\$ 5,265,000 for mining roads in the Western States
\$ 2,181,223 for research work on watersheds, erosion control, etc.
\$ 200,000 for debris dams in southern California.

The Advisory Board on Allotments, on July 23, approved the allocation of twelve million dollars from ERA funds for the purchase of land for National Forest purposes. These funds are not frozen by States and not subject to the usual ERA provisions, but will be available in the same manner as previous acquisition allotments.

Effective August 1, administrative supervision of the Luquillo National Forest and all other National Forest work in Puerto Rico was transferred from Region 7 to Region 8. With the mail and passenger facilities provided through airplane communication with Puerto Rico, via Miami, it is believed that the best interests of the Service will be met by administering the work from Atlanta.

The National Forest Reservation Commission, at its meeting on July 30, approved changing the name of the Luquillo to the Caribbean National Forest and combining the old Luquillo and the Toro Negro into one Forest.

During the last ten days of July, Region 1 had 433 lightning fires, all of which were controlled in the early stages.

It is noted that the Coronado National Forest has provided a "park-your-babies corral" on one of its recreation areas. Why wouldn't this be a good idea in the way of service to the public on a lot of our heavily used picnic and recreation areas?

The National Forest Reservation Commission at its meeting on July 30 approved for purchase 949,804 acres at a total cost of \$3,493,329. It is expected that a meeting of the Commission will be called for the latter part of this month.

FOREST SERVICE MOVES MOUNTAINS

At the mammoth parade which lasted an hour and ten minutes during Albuquerque's Golden Jubilee the Forest Service float was awarded first place and a silver cup is now adorning the Regional Office. The float had stiff competition but smoked its way across the finish line ahead of all others, even those displaying the youth and beauty of Albuquerque.

Built on one of the big semi-trailers, it was 40 feet long and 10 feet wide. On the front end and covering the cab was a green, tree-covered mountain, crowned by a lookout tower and well stocked with deer, bear, turkey, cattle, and squirrels. A summer home occupied a beautiful little flat. At the base of the mountain in a valley stood the buildings of the "Green Pine Lumber Company" with truck loads of logs coming and trucks of lumber going. But across the valley what a scene met the eye. The dilapidated and abandoned ruins of the "I. M. Busted Lumber Company" stood as stark proof of what happens when forests are

not protected and handled on a sustained yield basis. Behind them rose another mountain but this had only the stumps and stubs of a once beautiful forest. Some of the stubs and logs still glowed red and smoke curled up the valleys from them. With the forest and the green gone the yellow soil had cut into ghastly gullies - not a green thing on the mountain nor sign of life. Placards on the sides of the truck helped those who were slow to see the point. Probably, thirty thousand people saw it during the four days and it is safe to say that all of them got the idea it conveyed. The float has been on display at a prominent location on Central Avenue since the parade.

To "Admiral" McCament goes the credit for its success. He labored long and hard on it. Drafting contributed blue prints, animals, and a lot of help. In fact, everyone helped. In the parade McCament was the fire. Concealed under the mountain he puffed the smoke up through with a bee smoker. Kendall was the periscope. He sat on the bumper - under the foothills - and directed the driver. It was some float and you all should have seen it. - From R-3 Bulletin

HIGHLANDS WOODS PLANNED TO STOP SCOTS MIGRATION

To put a stop to Scottish migration from the lovely, rugged, heather-scented Highlands, large-scale state afforestation is being advocated.

Sir John Sutherland, Forestry Commissioner, in an address to the Royal Scottish Society of Arts in Edinburgh recently, pointed out that just as it has been found in Jutland and elsewhere that sandy wastes can be reclaimed by the planter and turned into economic property, so in the Scottish Highlands it has been found that moorland peat acres can be afforested.

The social advantages to the crofting communities cannot be overestimated, he contended.

The five northern countries of Inverness, Ross, Argyll, Sutherland, and Caithness cover 8,400,000 acres, or almost one half of the area of Scotland. Only 500,000 acres are cultivated in them, while 4,000,000 acres come under the plow in the rest of Scotland. There are 23,000 small holders in these counties where poverty of soil and severity of climate are all against the people.

Forestry, Sir John said, is one of the best natural sources of employment for them. Hundreds had been secured in permanent homes and every forest estate acquired meant employment. It was this social aspect which was of so much consequence at the present time, he added, and already afforestation is having beneficial results in the 44 forest estates open in these counties. - From Christian Science Monitor.

CCC ENROLLEES PROMOTED

Thirty-seven CCC enrollees in Region One have been promoted from the ranks to positions of foremen, machine operators, mechanics and steel sharpeners. Twenty-three of these promotions have been made from Juniors, and the other 14 from LEM. Among these boys are two from Kentucky, three from Indiana, one from West Virginia, three from Ohio and the rest are from Montana and Idaho. From R-1 Bulletin.



SERVICE BULLETIN

CONTENT'S CONFIDENTIAL

WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES. IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT *** THE TIME HAS COME FOR A CHANGE. AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY *** TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER.

Theodore Roosevelt

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A PERSONAL REPORT ON THE NATIONAL FORESTS

By Henry A. Wallace, Secretary of Agriculture

In July and early August of this year I visited 5 of the 10 National Forest Regions in the United States. Most of the inspecting was done by auto, but a little on horseback and some on foot. The outstanding impression in my mind was the universally fine esprit de corps. Everywhere the men think first, last and all the time about the public interest as contrasted with the regional or private interest. Again and again I asked how it happened that so many men had become filled with the necessary courage and intelligence to act for the long-time, general interest instead of the short-time local and political interest. The explanation goes back to Gifford Pinchot and Theodore Roosevelt.

Gifford Pinchot, in his missionary zeal, built an organization which stands as one of the greatest monuments to any living man. No matter how much disagreement there may be over Pinchot as a Progressive Republican political figure, there can be no disagreement over the marvelous contribution he made to the people of the United States in building the Forest Service firm and strong. Ever since Pinchot left the Service in 1909, Forester after Forester has been firm to the faith of the first Chief.

No one has ever brought to my attention the slightest suggestion that any lumber company has profited unfairly as a result of Forest Service laxity or favoritism. Steadily the 170,000,000 acres of National Forest properties have been improved. Millions of trees have been set out. Logging has been allowed only on such areas, and under such conditions, as would assure an adequate and continuous timber crop. In recent years logging has not been allowed in areas of outstanding recreational or scenic values.

The whole idea has been to devote the land and all its resources to its highest public use. * * *

The problem which aroused my interest most -- because it is least solved -- is the grazing problem. It is inseparably linked with forest land. Indeed, within the continental United States, about 334,000,000 acres -- more than 50 percent of all commercial and non-commercial forest lands -- are grazed by domestic livestock. And these forested grazing lands are vital to farmers and their livestock in the Central, New England, Middle Atlantic, and Lake States as well as in the South and the West. * * *

No one who has not travelled in the West can realize the terrible damage done by overgrazing. On the hills just east of the Salt Lake Valley in Utah, I call to mind how overgrazing of private land made it possible for heavy storms to start a mud flow carrying

to the valley below boulders weighing over 100 tons. In this flow, fertile valley soil, houses, and even human beings were covered up. In other cases overgrazing has resulted in the rapid silting up of reservoirs. * * *

I never fully realized what a splendid job of controlled grazing the Forest Service has put in practice until I saw the terribly abused range land between Bozeman and Dillon, Montana. The forest land was apparently in position to carry safely three times as much stock as this land, although originally they were of similar character. Under the Taylor Grazing Act the Interior Department hopes to control grazing in somewhat the same way as the Forest Service has. * * *

With all their allegiance to the long-time public interest, the Forest Service men have been amazingly tactful in dealing with the local communities. They have engaged in a long, slow program of education and as a result the local people have confidence in the Forest Service men.

RECREATION AT THE CROSS-ROADS

By James N. Gibson, Mono

The recognition of Recreation as a major Forest Service activity has resulted in a great increase of interest in recreation work. This sudden surge of interest, however, has not been accompanied by a corresponding growth of knowledge on the problems of Recreation, what they are, and how best they should be met. A relatively small percentage of Forest Service officers have had training or experience in the scientific management and development of recreational resources. Moreover, very few of the forest schools offer courses in the field of Forest Recreation, and until such time as there is a sufficient number of men trained in recreation with a Forest Service background, the development will need constant and careful supervision, and must, of necessity, make progress slowly.

In the present enthusiasm, this new activity may be in danger of overemphasis. That a balance should be maintained between this and other established lines of Forest Service work goes without question. In many instances Recreation will be the highest use to which an area may be put; in other cases it will be coordinate with timber production, grazing, or water development, while in yet others it will be classed as a type of marginal or sub-marginal use, or might be entirely undesirable from the viewpoint of fire protection.

To the men new to this work, the question of a basis for development arises. Here, perhaps, are the major considerations: The possibilities of the area from a recreational standpoint, its accessibility, and the estimated use.

It will be possible to determine the extent and value of the resources and to plan the road system which will secure the desired degree of access, but the extent of use can be only an estimate. We can begin to prepare, however, for future use by making surveys of the recreational resources of the individual Forests. The surveys should be followed by a development plan, in which priorities for actual construction may be set up. Then, as the need arises or can be forecast with any degree of certainty, actual development may be conducted to conform with the complete pattern.

We have an opportunity in the National Forests to offer a type of recreation which cannot be procured elsewhere. We should not attempt to compete with types of amusements to be found in city parks, but should, rather, hold to the simple types of improvements, maintaining as far as possible the natural aspect of the surroundings. We should develop our recreation resources exclusively for the type of people who wish to get away from city life and to enjoy the peace and quiet of the forests.

NEW FOREST-INSECT FIELD UNIT ESTABLISHED

The Division of Forest Insects of the Bureau of Entomology and Plant Quarantine has recently established a new western field station with present headquarters at Denver, Colorado. J. A. Beal, of Portland, Oregon, and L. G. Baumhofer, Coeur d'Alene, Idaho, have been assigned to the new unit. Dr. Beal will be in charge. The territory covered includes, roughly, the States of South Dakota, Nebraska, Kansas, Colorado, and Wyoming, parts of Utah and Oklahoma, and all of the proposed Shelterbelt area. Work on the Shelterbelt project will be one of the main functions of the unit and in this connection a temporary field station will be established in the Shelterbelt area. Some of the forest-insect problems of Arizona and New Mexico will be handled from the Denver Office.

HENRY E. HARDTNER - "FATHER OF SOUTHERN FORESTRY"

By W. R. Mattoon, Washington

The cause of forestry has lost an outstanding leader and friend in the death of Henry E. Hardtner of Alexandria and Urania, Louisiana, on August 7, as the result of an automobile accident.

Mr. Hardtner is rightfully regarded as the father of forestry in the South. In 1908 when he first developed a real interest in conservation in timberland management such a thing was not in existence anywhere in the southern pine region. In all the South practically the only thing of its kind was on the Biltmore estate in the mountains of North Carolina. The visit in 1910 of the late W. W. Ashe of the Forest Service marked the first contact Mr. Hardtner had with a technical forester. He referred to it as a landmark in his career. In 1913 he again requested and received the cooperation of the Forest Service in carrying on scientific investigation in reproduction and growth of longleaf, shortleaf, and loblolly pines on lands of the Urania Lumber Company, of which he was the organizer and president.

With his broad viewpoint and under his fostering cooperation, research has since been extensively developed on his lands, especially by the Southern Forest Experiment Station. At the invitation of Mr. Hardtner the Yale School of Forestry has been going to Urania for the field work of its senior classes each spring since the spring of about 1917. He has provided permanent living quarters and large areas of timberland for their use.

Mr. Hardtner stands out boldly as the originator and champion of the economic theory and practice of acquiring and holding cut-over lands containing young growing stock with which to meet future sawmill needs instead of the practice that was at the time universal among lumbermen, namely of buying and holding high-priced virgin timber for cutting budgets 20 to 40 years in the future. Along with this practice, in about 1910 he independently developed a fire protective system on his lands that was at least 8 years in advance of the State forestry organization, which later afforded State and Federal aid. He contributed many articles to newspapers, forestry and trade journals, and magazines.

Mr. Hardtner was a native of Louisiana, born on September 10, 1870, and undoubtedly acquired his instinct for tree growth and conservation from his father, a native of Wurttemberg, Germany. In 1908 he was appointed chairman of the Louisiana Conservation Commission, and in 1910 was elected a member of the State Legislature. There he was the author of several conservation acts, including the Forestry Act and "severance" tax act. His influence was potent throughout the South in getting States to establish forestry departments. At first regarded by many as a dreamer, he lived to see the adoption by many concerns in the South of conservation in lumbering and turpentine and to be held in high and affectionate regard alike by foresters and leaders of the lumber industry.

THE GNAWING OF METAL TREE TAGS BY RODENTS

By John G. Kuenzel, Central States For. Expt. Sta.

A recent remeasurement of cut-over growth plots in Clark County, Indiana, brought to light an unusual destruction of metal tree tags by rodents. The greater portion of the damage was confined to tagged trees in areas of young sapling growth, composed primarily of scarlet oak, black oak, and hickories. Many tags were completely torn from the copper nails with which they were attached to the trees at breast height. The nails themselves were left intact. In a few instances only a portion of the tag was gnawed.

Similar destruction of aluminum tags by rodents has been reported by L. I. Barrett, Associate Silviculturist, stationed with the Appalachian Forest Experiment Station. On the Bent Creek Experimental Forest and on experimental plots in north Georgia, Barrett determined the gnawing of aluminum tags to be the work of the gray squirrel, *Sciurus carolinensis carolinensis* (Gnolin).

TURPENTINE PINES NEED GROWING SPACE

By Lenthall Wyman, Southern Forest Experiment Station

That fire in longleaf and slash pine stands in the South lowers turpentine yields has been demonstrated convincingly, and thousands of acres formerly ravaged by fire have been given protection. And now when dense stands of young trees are coming in on protected areas, a new detrimental influence appears. The young timber growing up under crowded conditions is suffering in many instances from a too severe competition for light, moisture, and food materials.

Turpentine pines, to produce their best yields, must have space. Tree spacing controls growth rate and tree development, and these in turn are very closely correlated with the capacity of the tree to produce gum.

Careful records of gum yields obtained from crowded and from open-grown trees of comparable diameter indicate that the spaced trees are the best producers of naval stores. Of two groups of 100 slash pines of the same average diameter, the group having an average crown width of 19.9 feet produced 8.5 percent more gum than the group with a crown width of 14.2 feet. Other tests have shown that fast-growing trees, such as are found in open stands, yield more gum in proportion to their size than slow-growing trees. Furthermore, on well-spaced trees the old faces heal over more quickly, thus making it possible to backface these trees sooner than those occurring in crowded stands.

For these reasons it is important that stands maintained for naval stores be kept open. It is recommended that not more than 200 slash pines per acre be left by the time the trees reach 9 inches in diameter at breast height (4.5 feet from the ground). Longleaf pine requires even more room for the best development, and at 9 inches in diameter should be thinned to about 175 trees to the acre. Such stands will completely utilize the available growing space and at the same time develop the full crowns that go with maximum gum production.

Can crowded young stands be thinned at a profit by working to death the moderately small trees destined for removal? A test in a longleaf pine stand in northern Florida indicates that this method will not pay its way. In a 33-year-old stand, averaging 700 trees per acre measuring 1 to 10 inches in diameter, the 5, 6, and 7-inch trees were turpented. For the most part these trees had narrow crowns and tops no more than one-tenth of the total tree height. Before the end of the first season 13 percent of these turpented

trees had died, and by May of the second year chipping had been discontinued on 26 percent because of dry face or death of the tree. The quantity of gum yielded by the surviving trees at that time was quite inadequate to meet the cost of producing it. Weeding out these trees by chipping is obviously too expensive. On the other hand, reducing the stand to its most productive density by ordinary thinning operations, will in many cases pay for itself in increased gum yields.

BLAMES MANY PAINT FAILURES ON LACK OF PROPER SELECTION

Paint troubles which have been mounting in recent years as a result of indiscriminate use of different type paints are now costing home owners thousands of dollars annually through premature failure of repaint jobs.

Certain incompatibilities between types of paints which cause premature defects such as cracking and scaling have been responsible for early disintegration of new coats applied over older ones, according to Dr. F. L. Browne, chemist at the Forest Products Laboratory.

Dr. Browne has made surveys of the comparative lasting qualities of different paints in many communities throughout the country including villages built by private industrial firms whose records of repainting jobs offer data as to kinds of paints used, how they lasted and how often repainting was done.

"A very common case of incompatibility, or chemical clash between different kinds of paints," Dr. Browne points out, "is the application of white paint, or a colored paint made by tinting a white paint, over an old colored-pigment paint -- that is, a paint in which there is little or no white pigment.

"White or tinted paints applied over brown, green, or deep red paints, for example, often fail very rapidly and leave bad surfaces for further repainting."

When such a clash arises between the individualities of different paints, the new coat scales off and gives the house an unsightly, dilapidated appearance within a few years. Examples of this can be seen in nearly every community, the Laboratory chemist points out. If the type of paint is to be radically changed, he advises that the old coat be completely burned off before applying a new one, in order to prevent future scaling.

"White and tinted white paints," Dr. Browne says, "may likewise prove incompatible, especially when they differ greatly in the amount and kind of pigments with which they are made. Difficulties of this kind have been increasing for a number of years because of the introduction of many new pigments and paint liquids into the paint industry and the increasing variety of paints on the market in consequence.

"In maintaining the paint on a house it is highly inadvisable to experiment with a different brand each time the house is painted. The safest course is to start out with one kind of good paint when the house is new and then stick to that kind for all subsequent paintings.

"If a radical change in color scheme is desired at any time, competent advice should be sought to accomplish it without risk of upsetting the whole maintenance program through incompatibility of paints."

Dr. Browne's observations indicate that paints which in general seem to disagree with one another are: white paint over any full color paint; paints of varying pigment content; and paints containing varnish covered with paints lacking varnish.

EFFECT OF FOREST COVER ON STREAMFLOW DEMONSTRATED

By A. C. Shaw, R. 8

A small stream near the headwaters of Johnston Creek, tributary of the Ouachita River, receives the runoff from the slopes of Black Fork Mountain in the Ouachita National Forest. Prior to 1925, annual fires had kept the slopes of this mountain almost denuded of undergrowth, and the timber stand was sparse and open.

This stream flows past the Eagle Gap Ranger Station, where there is about three acres of level land. The stream bed has a gradient of about 1 percent; its channel is about 20 feet wide and about 6 feet lower than the level field. Local residents state that this stream annually left its banks and overflowed the flat lands.

Since 1925 the Service has been successful in protecting the forest on Black Fork Mountain from fire and its slopes are now well clothed with reproduction of merchantable species and fairly dense undergrowth. The stream has not left its banks since 1930, five years after the establishment of successful protection. Extremely heavy rains occurred in November and December, 1931, and extended throughout the month of January, 1932, enough rainfall to cause a minor flood on the Ouachita River. The same condition repeated in the spring of 1933. Local settlers told me this area was flooded in the past when such rains occurred. It did not flood this particular period. This can only be accounted for by attributing it to the influence on streamflow of the newly established forest cover.

THE EDITOR DISCOVERS

At the request of Works Progress Administrator Harry Hopkins, Mr. Silcox has outlined a program under which the Forest Service, Soil Conservation Service, National Park Service, Reclamation Service, and other technical agencies might possibly provide worthwhile projects for and take over supervision of the field work of a large number of the Transient Relief Camps. His proposal, which has been tentatively accepted by the Transient Bureau and the other Bureaus that would cooperate with the Forest Service in handling the projects in the field, is similar to the organization plan under which the ECW has worked so successfully during the past 2½ years. The major difference would be that the housekeeping part of the job would be taken care of by the Transient Bureau instead of by the Army. Other proposed changes in methods of handling the Transient Camps include the payment of a wage of possibly \$15 per month instead of the \$4 to \$6 per month generally paid at present, and the setting up of sufficient allotments to provide for reasonably adequate equipment materials and overhead.

At the present time there are 343 Transient Camps operating in the United States. It is not known, however, how many of the men in these camps are capable of doing a full day's work, or are available for work other than the gardening and similar projects immediately adjacent to permanent camps. Reports are now being compiled by the Regional Foresters and by other technical agencies, and through them by State authorities, showing what camps can be used to advantage and furnishing other data on which a complete program may be prepared. Supervisor William V. Mendenhall of the Angeles National Forest, who has had much experience with Transient Camps, has been called to Washington to assist in getting the project under way. Final decision as to whether or not the Forest Service will actually participate in the transient work will not be known until the Allotment Advisory Board and the President pass upon the application for funds. Although the number of men who could

actually be put to work under this scheme will not be known until reports from field agencies have been compiled, it will be somewhere between 50,000 and 200,000.

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Last March a series of regional conferences were held by the Department of Agriculture with representatives of land grant colleges, at which a cooperative research project was developed. This project relating to land use, has been carried on during the spring and summer, and preliminary reports prepared. In order to receive and discuss these reports, and to consider a number of other matters of great importance with regard to State and Federal relationships, another series of conferences has been called. The conferences will be attended by Secretary Wallace and Assistant Secretary Wilson, other members of the Department, and representatives of the land grant colleges in each region, with the Director of the Experiment Station and the Director of Extension. The schedule of the meetings and the names of Forest Service representatives chosen by the Forester to attend the meetings follow:

Ames, Iowa (August 22-23-24)

Paul H. Roberts, Acting Director, Plains Shelterbelt Project.
Earl W. Tinker, Regional Forester, R-9.

Logan, Utah (August 26-27-28)

W. R. Chapline, Chief, Division of Range Research, Washington, D. C.
C. E. Rachford, Chief, Division of Range Management.
R. H. Rutledge, Regional Forester, R-4.
R. W. Bailey, Director, Intermountain Forest and Range Experiment Station.

Athens, Georgia (September 5-6-7)

Joseph C. Kircher, Regional Forester, R-8.
E. L. Demmon, Director, Southern Forest Experiment Station.

Storrs, Connecticut (September 12-13-14)

R. M. Evans, Regional Forester, R-7.
C. E. Behre, Director, Northeastern Forest Experiment Station.
Mr. Silcox attended the Logan meeting, but will be unable to be at any of the others.

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Headquarters of the new Rocky Mountain Forest and Range Experiment Station are being established at Fort Collins, Colorado.

NEW YORK BRINGS TO A CLOSE CONSERVATION JUBILEE

A three day celebration, bringing to a close New York's observance of fifty years of conservation, will be held at Lake Placid on September 12, 13 and 14. A program, complete with parades, pageants, unveiling historical markers, dinners, addresses by speakers of state and national importance, sporting events and conventions and meetings of forestry and conservation organizations, will bring together 10,000 or more to this popular Adirondack resort.

President Roosevelt will attend unless the continuation of Congress necessitates his being in Washington. He is scheduled to dedicate the new Whiteface Mountain Memorial Highway and to address an open meeting at the Lake Placid arena on conservation. Governor Lehman has accepted an invitation to attend and unveil a tablet near Wilmington Notch, dedicated to fifty years of conservation in New York which began with the acquisition of forest lands in the Adirondacks by the State a half century ago. The Governors of the States adjoining New York - Vermont, Massachusetts, Connecticut, New Jersey, Pennsylvania and Ohio - have been invited by Governor Lehman to be present, as has the Governor General of Canada.

The American Forestry association, with 300 or 400 delegates from all parts of the country, will hold its annual dinner at the Lake Placid arena on Thursday night, September 12 with Secretary of Agriculture Wallace, John H. Finley associate editor of the New York Times, and State Conservation Commissioner Lithgow Osborne scheduled as speakers.

Friday afternoon, September 13, Governor Lehman will dedicate the memorial tablet near Wilmington Notch. He will be the only speaker at this ceremony and will be introduced by Commissioner Osborne. Friday night, at an open camp dinner at the Lake Placid airport, the speaker will be J. N. "Ding" Darling, famous newspaper cartoonist, and Chief of the Bureau of Biological Survey of the U. S. Department of Agriculture.

The dedication of Whiteface Mountain Memorial Highway is scheduled for 11 o'clock Saturday morning, September 14. The speech by the President will be sent from the mountain top by short wave radio and broadcast. At noon the President will be guest of the Whiteface Mountain commission and the State Conservation Department at a luncheon and at 3 o'clock in the afternoon will address an open meeting at the Lake Placid Olympic stadium. Immediately following the President's talk, a pageant depicting the fifty years growth of the Adirondacks and the Conservation Department will be given by a professional cast, supplemented by Lake Placid residents, of more than 100 persons.

In conjunction with the three days' program, the fish and game division of the Conservation Department will hold a rod and gun meet, the first to be sponsored by the State. This will open Thursday morning and conclude Saturday noon. There will be 17 events, nine open to all sportsmen, and eight closed in which the champions in each county with rod or gun will compete. This being the first time a meet has been held to decide state championships, a large number of entries have already been received by the secretary of the Conservation Department in Albany. - New York Conservation Dept. News Release

AIRPLANE PLANTING OF TREES

Trees that sprang up from seeds scattered by airplanes are growing today in mountain fastness where man has never trodden in Hawaii, according to reports of Hawaiian foresters. Because some areas in the precipitous volcanic mountains are inaccessible for planting by the usual means, the idea of sowing seeds from airplanes, borrowed from the United States Army, was hit upon. At the time they were first scattered, it was impossible to determine whether any of the seeds took root. Today, however, foresters report that the trees are visible at a distance. This method has been particularly useful in replanting areas on the island of Hawaii devastated by forest fires. According to a report of George McEldowney, Forest Supervisor for the Hawaiian Sugar Planters Association on the island of Oahu, trees of the African Tulip, Moreton fig, and hutu have been found in the mountains behind Honolulu, growing from plane-scattered seeds. - Science Service

MOUNT VERNON IN 1798

"He praised the soil very highly. I asked him if he was acquainted with the land at Mount Vernon. He said he was; and represented it to be rich land, but not so rich as his. Yet his I thought very poor indeed; for it was (as it is termed in America) gullied; which I call broken land. This effect is produced by the winter's frost and summer's rain, which cut the land into cavities of from ten feet wide and ten feet deep (and upwards) in many places; and added to this, here and there a hole, makes it look altogether like marl-pits, or stone quarries, that have been carried away by those hasty showers in the summer, which no man who has not seen them in this climate could form any idea of, or believe possible." - From a visit of Richard Parkinson to America in 1798-1800.



SERVICE BULLETIN

CONTENT'S CONFIDENTIAL

WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES. IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT ***THE TIME HAS COME FOR A CHANGE. AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY *** TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES. WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER

Heaton Rowan

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LET US NOT FORGET

By John D. Jones, Shelterbelt Project

No public agency, however efficient, can progress or prosper unless the public with which it deals is currently informed of its purposes and plans, and is fully convinced that it is worthwhile. Opposition to a new enterprise is often its ladder to success, since opposition stimulates the organization to a high pitch of enthusiasm and accomplishment; if previously it had been unwilling to keep the public informed, such opposition forces it to do so by means of its replies to critics.

Two distinct schools of thought have existed for sometime in the Forest Service. One would pay little attention to its public, but would center all effort on planning its work well and accomplishing that plan efficiently and effectively, believing that in so doing the public would recognize the merits of its work and thereby accord the desired approval. There is, likewise, a tendency among this group to feel that their organization is not a part of the public, and that they are, in a sense, working for a private corporation, namely, the particular Bureau to which they hold allegiance. They are extremely proud of their accomplishments, and justly so, but it is doubtful if one in a thousand of their stockholders -- Mr. and Mrs. Public -- ever hears of their accomplishments or cares a hoot whether they continue to do good work or not, or would shed a tear if the organization ceased to exist.

The second school of thought also has the same pride of good workmanship in its accomplishments, but with this difference: its members regard themselves as public servants, and as such, believe it is their duty to take the public into their confidence and inform it about their plans and accomplishments, as well as the purposes of the completed work. For instance, if the project happens to be a new road, the public is told how this road will open up a new supply of timber, thus providing a new source of employment and contributing to the welfare of the community. Incidentally, it may furnish a new recreational area and a short cut to a group of cattle ranges, thus affording not only a local but also a general interest in the project by a large group of citizens throughout the region.

When the local public, as well as the general public, is kept currently informed on the work and progress of such an organization, it is able to understand and appreciate its accomplishments, and is therefore in sympathy with the project. Public good will is built up through this attitude. Then, should unjust criticism arise, the public is better qualified to judge the merits of the case -- a mere statement calling attention to the incorrectness and unfairness of the criticism is about all that is necessary.

Furthermore, if funds are not available to complete some important project, and community cooperation is needed, its local officials will be able to act freely if they realize that the public is correctly informed. If, however, the public has been kept in the dark previous to the rise of such a situation, it will be necessary to launch an extensive and detailed campaign to educate the public-- even though the work of the organization has been efficient and well planned. Valuable time is thus lost, and prestige damaged which otherwise could have been currently maintained.

Because the Forest Service in its formative years was forced to fight for its existence, and its personnel was made up of aggressive and capable men and women willing to stand on their merits and present their plans and ideals for public scrutiny and approval, the organization is held in high esteem in the public mind. To retain this position, the Service must continue to take the public into its confidence and keep it currently informed. This is even a much greater public duty now than it was at the beginning. The public is now in the habit of receiving information much more frequently and from many more sources than in the past through the monthly magazine and weekly newspaper. This is an age of rapid transmission of news and information, and any organization seeking to keep the confidence of its public must avail itself of current facilities.

"The Public be damned" was once a popular fallacy of private corporations. This attitude on the part of many a corporation explains why it is not now doing business. One need only scan the pages of our daily newspapers to note with what meticulous care public corporations now seek to inform their public as to what specific service they are rendering, how it is being rendered, and why; so that they may have the privilege of continuing to give that service to the public. If it is necessary for so-called private institutions to take their public into their confidence, how much more necessary is it for Governmental agencies, which are created only by and with the sanction of the public which they serve, to do so?

Let us not forget, also, that even among public agencies there is a friendly, and often a very keen rivalry -- to put it mildly -- for public favor and good will and, incidentally, for a fair share of the funds that the public appropriates for carrying on its business. If the Forest Service desires to continue in the forefront of public esteem, a place which it has enjoyed in the past and up to the present, it must not only continue to display a vision in forward-planning and a receptive attitude towards new ideas, continuing to give the same efficient, conscientious performance as always, but it must also keep the confidence of its public by furnishing correct and complete information concerning its plans and progress.

It is a self-evident truth that no private agency and, much less, a public one, can progress far in advance of the average understanding of its public. Notice what happens when some automobile manufacturer puts out a new radical departure in either body or engine design, however efficient, without first fully preparing its public to receive it. There are no sales -- and, shortly, no corporation. Let any public agency announce a new policy, however desirable or sound, without advance preparation or notice; and what is the result? -- protests, reams of correspondence, public investigations, and interminable delays, until the public has been sufficiently informed and convinced to permit, perhaps grudgingly, that the program be carried out.

Thus it is not a question of whether we should keep the public fully informed, but rather a question of how it can be done most effectively and efficiently. The Scriptural admonition not to hide our light under a bushel is as applicable now as then.

DIRECT SEEDING

By Duncan Dunning, California For. Expt. Sta.

To profess any faith in the possibilities of direct seeding of ponderosa and sugar pines in California invites a polite reference to those nearly uniformly disastrous failures of 1908 to 1913. Yet the fact remains that natural seedlings do grow. Also planting has been only slightly more successful.

We have not dared to risk duplication of those earlier failures on a large scale, but since 1926 we have dabbled with direct seeding in connection with the study of natural reproduction. Seed with wings has been sown on top of the ground and with a cover of soil, with and without soil cultivation, with eradication of competing cover and without eradication, with rodent screens and without them, with rodent poisoning and without, on burns and where the cover was undisturbed.

The net results have not been large, mostly negative, and not very new. But we still have faith.

First of all, more care must be exercised to obtain good seed. Much of the seed used in the past was so poor that even the rodents wouldn't touch it. By contrast, seed from selected trees furnished by the Placerville Erosion Control Nursery yielded over 90 percent of good seedlings. Next, it is nearly useless to sow seed on top of the ground. Broadcast seeding offers little promise. The seed should be covered in spots of mineral soil where there is room for a tree to grow; it is useless to sow seed where the ground is held by other vegetation. Fall seeding is necessary, especially for sugar pine. Last, and equally important, rodents must be controlled. No seedlings of any consequence have ever been experimentally established where rodents were not excluded by screens, fire or poisons, until after the seedlings become woody - a few weeks after germination.

Elimination of rodents appears to be the most difficult. Eradication of shrubby weeds is not an insurmountable difficulty. The clipping of established seedlings by rabbits, deer, etc., common to planted stock also, usually is not serious enough to prohibit reforestation. But efforts to control the small seed eaters have met with little success. Skeptics should remember, however, that relatively little research has been done on this complex problem. The failures of 25 years ago merely emphasize the need for careful study. Since those days the Biological Survey has developed efficient methods of controlling those species on which they have concentrated. The most distinctive seed-eater, the white-footed mouse, is doubtless the most successful mammalian species in North America. It is not to be expected that amateurs, or even experts without intensive study, can hope to control successfully such a species.

Fortunately the outlook is good for real cooperation by the Biological Survey in this problem of rodent relations. There is little doubt that success will be attained. In my opinion direct seeding will take an important place in reforestation, but until methods of rodent control have been developed, large-scale seeding projects should not be attempted.

A REVIEW OF "AN OUTLINE OF GENERAL FORESTRY"

By John. D. Guthrie, Washington

The above title is that of a new book by Dr. J. S. Illick, Professor of Forest Management, New York State College of Forestry, Syracuse. It was issued in August, 1935, by Barnes & Noble and retails for 75¢ in paper cover, \$1.50 in cloth, with lower prices for bulk purchases.

This is the best, most concise, and most up-to-date book on the general field of forestry yet issued. It should prove very valuable for forest rangers and forest workers, forestry students, CCC camps, as well as for the layman; it is also a useful reference book for any forester.

There are 30 chapters, arranged in short, clear-cut paragraphs, with headings, and each chapter ends with questions and a list of references. It contains 35 figures and an index. The book covers such subjects as — what forestry is, what a forest is, the forestry situation in the United States, progress in federal, state and private forestry, protection, management and utilization of forests, as well as forest research and education. It is up-to-date in covering such subjects as work opportunities in forestry and fields of employment, new federal conservation activities and significant trends in forestry.

The book is based on Professor Illick's freshman lectures at Syracuse, supplemented and brought up to date. His broad background as a State forester, his experience in teaching and as a forestry writer, especially qualify Professor Illick as the author of such a book. The manuscript was reviewed by a dozen or so federal foresters and five educational advisers of the CCC. It should be in the hands of every CCC camp educational adviser and every forest ranger, state and federal.

In this reviewer's opinion it is the answer to the forester's prayer for a suitable forestry text book for use in CCC camps.

WHAT THE NEW AMERICAN WILDLIFE INSTITUTE MEANS TO NORTH AMERICA

(From an address by Seth Gordon, Retiring President, American Game Association, over the N. B. C. Farm & Home Hour, August 30, 1935)

The American Wildlife Institute was chartered in the District of Columbia on July 22, 1935, as a non-profit, non-political cooperative agency, to aid in the coordination of wildlife restoration activities in the United States, Canada, and Mexico, and to help to apply sound business and scientific principles thereto.

With the backing of serious-minded business men of international reputation who are now taking an active interest in the solution of game, fish, and other wildlife restoration problems, this important movement should proceed with fresh impetus and renewed energy. Among those who are actively behind the new organization are Mr. Walter P. Chrysler, chairman of the Board of the Chrysler Motor Corporation, who is chairman of the Board of Trustees of the Institute. Mr. Herbert L. Pratt, retired industrialist, is vice-chairman. Mr. Powell Crosley, Jr., president of the Crosley Radio Corporation, is chairman of the executive committee. The active president of the Institute is Mr. Thomas H. Beck, president of the Crowell Publishing Company, with Mr. Charles S. McVeigh, attorney and sportsman, long active in conservation work, as vice-president. There is a Board of fifty Trustees.

One of the primary purposes and basic functions of the new Institute is to be the mobilization of organized conservation agencies into forceful federated groups. The greatest need, nationally and internationally, to accomplish recognition, political and economic, is a federation of all sportsmen's and conservation groups. Local game and fish clubs, and other organizations and individuals, exist in ample numbers to wield the necessary influence if united. Active leadership is imperative and it is to provide this leadership that the Institute has been organized.

It will endeavor to bring together, in one cooperative activity the thousands of local groups now in existence and dedicated to game and fish restoration. It will work toward

the federation of all sportsmen's and other conservation organizations into state and provincial groups with unity of purpose and harmony of action.

Through such federations and affiliation with national conservation organizations in the United States, Canada, and Mexico, it is hoped that sentiment in favor of wildlife restoration may be crystallized into action and mobilized in an effective manner for the establishment and maintenance of continuing, progressive, and productive wildlife policies and programs.

Of perhaps more immediate interest is the plan of the Institute to finance, in co-operation with the U. S. Biological Survey, with funds provided by members of the Institute, a series of research and training projects in selected Land Grant colleges over the country.

Nine such projects are in the course of development, and the first is all ready to start in September at the Virginia Polytechnic Institute at Blacksburg. Each project will have about \$18,000 annually on which to work. This is to be underwritten jointly by the Institute and the Survey in the sum of \$6,000; the state game commission which will provide another \$6,000; and the college will provide a like amount in funds or its equivalent in personnel or equipment. The Biological Survey will provide the technical supervision.

This program will supply the means of fostering and coordinating essential research work in wildlife management problems, which will assure much more progress in this important field. Distinct from the research work, but a definite part of the program, will be the development, in these same institutions, of courses of training in wildlife management with actual field demonstrations, which will train men for the effective management and administration of our important wildlife resources. This will place this training work where those who take agricultural courses may learn how to produce abundant annual crops of wildlife along with their regular farm and ranch operations.

CHANGE OF NAME OF DEPARTMENT OF THE INTERIOR

(From Congressional Record, August 16, 1935)

The bill (S. 2665) to change the name of the Department of the Interior and to co-ordinate certain governmental functions was announced as next in order.

SEVERAL SENATORS. Over. (In other words, they objected to its consideration)

MR. LEWIS. Mr. President, may I ask the Senators to withhold their objections for just a second, although I recognize the right of any Senator to make objection?

This bill, I may say, is the one to which I alluded yesterday looking to the amalgamation of certain departments with the Department of the Interior, to be designated thereafter as the Department of Conservation and Works. There are Senators who desire to present some views on the question. It is my judgment that by reading the communication of the Secretary of the Interior accompanying the bill Senators may find all that is needed to advise them concerning the bill. If Senators are for the bill, it is sufficient for them to say so. If they are opposed to it, they can state their opposition. I should like the bill to be taken up for consideration at the present time.

MR. SMITH. I ask that the bill be passed over.

MR. LEWIS. Mr. President-----

MR. MCNARY. I ask for the regular order.

MR. LEWIS. Mr. President, I ask that the Chairman of the Committee on Public Lands and Surveys (MR. WAGNER) be permitted to make a statement with reference to the bill. I have usurped his time, and I ask that he be given the privilege of stating the purposes of the bill.

MR. WAGNER. Mr. President, the full committee on Public Lands and Surveys reported the bill by unanimous vote, and I am sure if it can be brought before the Senate as a special order, or as the unfinished business, it will receive the approval of the majority of Senators. The bill has been very much misunderstood. In effect the bill simply changes the name of the Department of the Interior to the Department of Conservation and Works. In respect to the provisions of the bill concerning the consolidation of departments, such action cannot take place unless recommended by the President and then approved by the Congress.

MR. SMITH. Mr. President, the bill has been objected to, and it might as well be stated that there is no need for considering the bill. I make the point of order that objection has been made.

THE PRESIDING OFFICER. The point of order is made that objection has been made to the consideration of the bill.

MR. WAGNER. Mr. President, I have the floor. I am entitled to the floor.

THE PRESIDING OFFICER. The Senator from New York is entitled to the floor, but objection has been made to the bill, and the bill will be passed over.

MR. WAGNER. If there is objection made to the bill I will say that I shall wait until the next bill on the calendar shall be called, and then I will make my statement.

THE PRESIDING OFFICER. The Senator has that privilege. In view of the fact that objection has been heard, the bill will be passed over.

MR. WAGNER. Mr. President, I was simply going to add that the Senator from Illinois (Mr. Lewis), who is the sponsor of Senate bill 2665, has already given notice that at the appropriate time he will move the consideration of the bill and try to make it the unfinished business. I am sure the Senator will seize the first opportunity for the purpose of making such a motion.

MR. BORAH. Mr. President, before the Senator concludes his remarks on the bill dealing with the Department of the Interior I wish to ask him a question. I understand the bill proposes to transfer the administration of the Forest Service from the Department of Agriculture to the Department of the Interior.

MR. WAGNER. No; that is a misunderstanding. If the President should recommend such transfer to Congress, and if Congress should approve it, then and only then would the transfer take place. The bill makes no other authorization than that, which is the authorization we provide in other similar legislation. There is nothing in this bill which makes provision for the transfer the Senator referred to.

SEVERAL SENATORS. Let the bill be passed over.

MR. SMITH. Mr. President, this bill cannot be passed at this session. Therefore I ask what is the use of talking about it in view of the fact that it cannot be passed?

MR. LEWIS. The able Senator from South Carolina recently urged the passage of a bill and the bill was passed.

MR. SMITH. That is true, but the bill under consideration cannot be passed at this time.

(Senator Lewis has declared that he will bring this bill up again at the next session of Congress.)

YE EDITOR DISCOVERS

The California Coast Redwood region and eastern Maine will have their first National Forests, as a result of action by the National Forest Reservation Commission, at its meeting on August 29, in establishing new purchase units in these two great timber-producing regions.

One California Redwood unit will be located in Mendocino and Sonoma Counties and another in Humboldt and Del Norte Counties, both areas lying near the coast between San Francisco Bay and the Oregon line. It is proposed to acquire about 200,000 acres of virgin and cut-over timber lands within this region. For the first time the National Forests will contain adequate examples of the picturesque and economically important Coast Redwood type of forest.

The Grand Lake National Forest Purchase Unit in Maine will have a gross area of 785,000 acres in Aroostook, Penobscot, Hancock, and Washington Counties. Heretofore the only National Forest area in Maine has been about 30,000 acres of the White Mountain Forest next to the New Hampshire line. Ultimately about 600,000 acres may be purchased at a cost of \$2,550,000. The Grand Lake Unit is an important timber, watershed and recreational area, capable of development through intensive management.

The Commission also approved the purchase of 100,958 acres in other regions at a cost of \$1,563,168.

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A deadline beyond which no additional applications for ERA funds will be received has been set at September 6 by the Department, in order to have all pending estimates reviewed and ready for the last meeting of the Advisory Committee on Allotments on September 17. In addition to a large program being submitted by Research in 20 States and the District of Columbia, estimates for extensions of the ERA program in their regions have also been prepared by all the Regional Foresters except Region 1 and Alaska. In order to get the applications in on time, the newly created Section of Estimates and Reports has called upon the other Sections in the Washington Office for assistance in checking and typing the applications.

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Scout Masters are evidently beginning to realize the value of forestry to their troops, requests having recently been received by the Washington Office for the use of motion pictures at Scout meetings in seventeen different States.

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For three years, a group of Federal and State economists and sociologists have been studying economic and social problems in the Southern Appalachians - principally in the Appalachian areas of Virginia, West Virginia, Kentucky, North Carolina, Tennessee, and Georgia. A report of their work has recently been published by the Department of Agriculture as Miscellaneous Publication 205, "Economic and Social Problems and Conditions of the Southern Appalachians". It contains 184 pages, with many maps, charts, statistics, and photographs of typical mountain and valley dwellings. Copies may be purchased for 50 cents each from the Superintendent of Documents.

"The basic problems of the region", according to L. C. Gray and C. F. Clayton of the Bureau of Agricultural Economics, who served as Director and Associate Director, respectively, of the study, "grow out of maladjustments in land use and in the relation of population to land."

"Tangible adjustments in the utilization of the land cannot be effected", according to these investigators, "unless there is a planning agency vested with powers and resources sufficient to cope with actual problems." It is suggested that "two major lines of adjustment involve a combination of part-time farming with employment in forests and forest industries, and a combination of work in mines with employment in forests or in adjacent local manufacturing plants or part-time farming."

The report was prepared by the Bureau of Agricultural Economics, Bureau of Home Economics, and the Forest Service, in cooperation with the Office of Education of the Department of the Interior, and the Agricultural Experiment Stations of Tennessee, Virginia,

West Virginia, and Kentucky. It deals with physical features and conditions in the region, types of land utilization, farm organization and management, markets, transportation, manufactures, and occupations, public finance and farm taxes, schools and education, population distribution and changes, variations in farm-family living, food supply, social conditions and social organizations, the church situation, and the need for a program of land utilization.

DUTCH ELM DISEASE TERRITORY RESCOUTED BY FORCE OF 4,000 MEN

With a works program allotment of \$2,500,000 for the eradication of Dutch elm disease, the Department of Agriculture has put nearly 4,000 men -- mostly from relief rolls -- into the 5,000 square miles in Connecticut, New York, and New Jersey, centering around New York City, where the principal known infection in this country is concentrated. The enlarged force is scouting for diseased trees and destroying all those that might spread the spores of the fungus responsible for the trouble. Destruction of infected trees is the only method of eradication yet developed.

Since the Federal campaign to stop the spread of Dutch elm disease began two years ago, 10,545 cases of the disease have been confirmed by laboratory tests. All but 720 of these trees have already been destroyed. In addition, 483,201 dead or dying elms have been removed as possible sources of new infection, and 231,312 more have been marked for destruction.

The tri-State area has been scouted once this season. The scouts are now going over it again, with special attention to the critical safety zone -- a strip of land 10 miles wide outside the outer line of known infection. This zone is extended slightly from time to time as scouts discover diseased trees within the zone.

In the only other States where Dutch elm disease is known to have occurred -- Virginia, Maryland, Indiana, and Ohio -- some further evidence of the infection has been noted in the last months, says Lee A. Strong, Chief of the Bureau of Entomology and Plant Quarantine. He has received reports from the field forces that two more diseased trees were found near the one discovered some time ago in Norfolk, Va., seven near the four found in Indianapolis, Ind., in 1934, and another in Ohio.

The source of the infection -- which has been present in the United States since 1930 -- has been traced definitely to infected logs shipped from Europe through the ports of New York, Norfolk, Baltimore, and New Orleans, and sent by rail to veneer plants in a number of States. Federal plant quarantines have been imposed to prevent entry of any more foreign logs or lumber harboring the dangerous spores. However, says Mr. Strong, the success of the campaign to keep the American elm from going the way of the American chestnut still hangs in the balance.

Entomologists and pathologists working on the problem cannot yet answer several very vital questions concerning the disease. For example: As yet it is not known in how many ways or by how many agents the disease organism may be spread. Entomologists have proved that the small European elm bark beetle present in large numbers in New York, New Jersey, and Connecticut can transmit the infection from one tree to another, but this species of beetles, however, is not known to occur in Virginia, Maryland, Indiana, or Ohio.



SERVICE BULLETIN

CONTENT'S CONFIDENTIAL

WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES. IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT *** THE TIME HAS COME FOR A CHANGE. AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY *** TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES. WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER

Theodore Roosevelt

Vol. XIX No. 20

Washington, D. C.

September 30, 1935

H. R. 6914 SIGNED BY THE PRESIDENT

By A. B. Hastings, Washington

On August 29 the President signed H. R. 6914 which has now become Public 395, thereby inaugurating an entirely new brand of Federal cooperation with the States.

Under the terms of this new measure the Federal Government will purchase land for administration by the States as State Forests. The administration of these areas will be handled under the terms of agreements to be entered into between the Secretary of Agriculture and the several States. All purchase transactions will be approved by the National Forest Reservation Commission. One-half of all gross proceeds from these Federal-loan State Forests will be paid to the Federal Government until the Federal expenditures on account of these lands have been completely refunded.

This legislation, commonly known as the Fulmer Act, is the most significant co-operative measure dealing with forestry since the Clarke-McNary Law, Act of June 7, 1924. The future may assign to it equal importance with that act. It certainly offers opportunities of major importance for the strengthening of State Forestry Departments through the establishment of State Forests in every forested State. With wise administration of the Fulmer Act, a well balanced program of public forest ownership should be developed, the urgent need for which is generally recognized.

The Fulmer Act as finally passed, carries an authorization of only \$5,000,000, and no appropriation was made to handle this work during the fiscal year 1936. It has been the hope of its proponents that, with the organic legislation provided, money might be secured from some emergency appropriation for starting the work. The opportunities along this line can not be forecast at this moment. We are still hoping for the best. The fact that this bill was finally passed and signed in spite of repeated obstacles bears testimony to the nation-wide and strong support which the measure received and to the fine work of the American Forestry Association and other forestry groups.

This is an opportunity for promoting the forestry interests of the country in a major way, at the very minimum of Federal expense. It should be taken advantage of to the full. The Forester has given the Fulmer Bill his hearty support. If it is to meet with the greatest measure of success it will require the whole-hearted cooperation of all forestry agencies.

RECREATION TRAVEL IN REGION FIVE

By L. A. Barrett, R. 5

The extent to which some Region 5 National Forests are used for recreation is well illustrated by the actual count made of visitors into the San Bernardino National Forest over the Labor Day weekend.

Over this 3-day holiday 80,046 people in 26,753 cars were actually checked into that Forest. Since there was no check on minor roads, it is estimated that 100,000 recreation seekers entered this one Forest from August 31 to September 2. Of this total number, 56,900 people (or nearly 60%) in 18,976 cars entered over the \$3,000,000 Rim of the World Drive.

All accommodations in the Forest were filled to capacity. People were camping who came with no intention of camping but could not get into a resort, and were forced to use the Forest Service public camps. Many parties had to camp outside our camp ground limit signs, and sometimes as many as six parties used one stove. Without the Forest Service camping facilities the fire hazard would have been extremely high. Fully 30,000 people used our camps over this weekend. As it was, there was not one fire or one fire call and no disturbance reported from any camp. This is a record of which the San Bernardino force may be proud. Incidentally, none of them got much of a vacation out of this holiday.

In transmitting the count figures the Acting Supervisor wrote:

"If you could have stood with us at the Waterman Canyon Guard Station on Labor Day night and watched the string of cars homeward bound, winding down the wide high-gear road, you would have been impressed at the wealth represented by these cars and wondered if there really was a depression in this country."

This road, one of the finest mountain highways in America, was taxed to capacity to carry the load.

A NOTE FOR IL DUCE

By Daytonius, Washington

In the Empire Journal of Experimental Agriculture for April, 1935, is an article by D. C. Edwards entitled "The grasslands of Kenya" which includes some range management recommendations in rather striking contrast to those demanded in our own range country. About half the area of Kenya (which, by the way, is a British east-African colony adjoining Ethiopia on the latter's southern boundary) is said to be occupied by natural grasslands. These grasslands are of two main types: (1) A Themeda triandra (a grass closely related to our andropogons) - acacia type, occupying a warm, dry region apparently something like our Southwest, and (2) A Pennisetum clandestinum (a species of Kikuyu grass, closely related to the cultivated pearl millet and Napier grass) - Johnston clover type, occupying higher, moist, and cool lands. This local species of Kikuyu grass might be styled a subclimax type in what was originally forest; it is a creeping species with an extraordinary lacery of surface runners and subterranean rhizomes. Soil fertility is a prime essential in its maintenance, and the greater the concentration of livestock, with attendant manuring, the greater the plant thrives, - even when the ground is temporarily denuded by the trampling of dense-herded bands of sheep. In the absence of such highly intensive use other and inferior grasses crowd it out. Nothing is said by the author as to the condition of the cattle and sheep on these Kikuyu grass areas (which are also said to support large numbers of game) or as to the presence of animal parasites.

The advantages of highly intensive grazing of grasslands in another part of the world (the fogbelt of Britain) were mentioned in a brief review by this writer in the Forest Worker for January, 1929.

CAN YOU CHOOSE A TITLE

By Wayne Davis, Professor of Psychology, University of Virginia

All are familiar with the Little Blue Books, priced 5 cents each, which have been widely listed in full-page advertisements. Up to 1928 Haldeman-Julius sold 100 millions of these books. This is a commentary in itself upon American reading, but in addition the publisher has presented a very candid and detailed analysis of his sales records.

Haldeman-Julius conducted some very interesting experiments upon the effects upon sales of changes in titles. The following are comparisons of the sales of a book under each of two titles. In most cases the first title was used in 1925 or 1926 the second in 1926 or 1927. In no cases, were changes made except with respect to the title.

The Mystery of the Iron Mask	11,000
The Mystery of the Man in the Iron Mask	30,000
The King who Enjoys Himself	8,000
The Lustful King Enjoys Himself	38,000
Ten O'clock (Whistler)	2,000
What Art Should Mean to You	9,000
Pen, Pencil and Poison (Oscar Wilde)	5,000
The Story of a Notorious Criminal	15,800
The Art of Controversy (Schopenhauer)	8,000
How to Argue Logically	30,000
Casanova and His Loves	8,000
Casanova, History's Greatest Lover	22,000
Patent Medicine and the Public Health	3,000
The Truth about Patent Medicine	10,000
An Introduction to Einstein	15,000
Einstein's Theory of Relativity Explained	42,000
An Introduction to Nietzsche	10,000
How to Understand Nietzsche's Philosophy	19,000

As Haldeman-Julius says, it is almost impossible to find general rules about titles, but the facts he has cited suggest that others of us might increase interest in the wares we have to sell by being more experimental about the titles under which we offer them.

(Substitution of the word "headlines" for "titles" in this article makes it applicable, of course, to our own written products--Ed.)

STATEMENT OF JESSE H. JONES, CHAIRMAN OF THE RECONSTRUCTION FINANCE CORPORATION

Loans for the construction of pulp and paper mills were advocated and discussed before the House Banking and Currency Committee in January of this year when the extension of the RFC Act was under consideration, and debated on the floor of the House, January 29, 1935, when the amendments to the RFC Act were adopted. Reference is made to pp. 77-78-79-80 of the Hearings of the House Committee on Banking and Currency "to extend the functions of the RFC," January 21-22-23-24 and 25, 1935; also the Congressional Record of January 29, 1935, pp. 1144-1165.

We have only had one formal application for the construction of a pulp and paper mill - that of the Crossett Lumber Company, at Crossett, Arkansas.

The security for this loan is conservatively estimated at \$12,000,000, or more than three times the amount of the loan. It includes, in addition to the new mill, a first mort-

gage on 333,803 acres of timber and pulpwood land; 970,000,000 feet of pine saw timber; 198,000,000 feet of hardwood saw timber; 1,054,000 cords of pine pulpwood; 716,000 cords hardwood chemical; three large saw mill plants; and the town of Crossett, Arkansas, with a population of 3,500 people who are dependent upon the operations of the Crossett Company. The town of Crossett, Arkansas, comprises about 3,000 acres of land on which there is located 685 modern homes, store buildings, office buildings, hotel, boarding houses, hospital, theater, ice plant and such other buildings as are needed to make a complete town, served by electricity, water and sewerage, all belonging to the borrower, and included in the mortgage.

The loan is for \$3,850,000 - estimated cost of the new mill - and matures in installments ending January 31, 1945. The Company's previous earning record, including the last few years, assures payment of the loan.

The annual capacity of the new pulp and paper mill will be approximately 31,000 tons of kraft paper, and 15,500 tons of dried sulphate pulp, and we have been importing approximately 500,000 tons of kraft pulp annually.

Construction of the Crossett mill will furnish a great deal of employment immediately, and continually thereafter in its operation.

A brief filed by the American Pulp and Paper Association, opposing the loan, was given full consideration before the loan was granted.

Every governmental loan to industry competes with private capital, and it is for Congress to determine how long it wishes such loans made.

ACTS PASSED AT THE FIRST SESSION OF THE 74th CONGRESS RELATING TO WORK OF THE FOREST SERVICE

- H. R. 2881 - Approved April 17, 1935, Public Law #38, which authorizes the Secretary of Agriculture to cancel timber-sale contracts entered into prior to June 30, 1934.
- H. R. 3061 - Approved August 2, 1935, Public Law #227, which authorizes the extension of the boundaries of the Chelan National Forest, Washington, for a distance of four miles from present boundaries.
- H. R. 4339 - Approved August 26, 1935, Public Law # , which authorizes the appropriation of receipts from the Wasatch and Uinta National Forests, Utah, for the purpose of acquiring privately-owned lands within those Forests.
- H. R. 4983 - Approved March 2, 1935, Public Law #16, which authorizes the conveyance to the State of Mississippi for the use of its National Guard of certain lands hitherto acquired for forest purposes.
- H. R. 6914 - Approved August 29, 1935, Public Law #395, which authorizes the Federal Government to cooperate with the States in promoting State Forests.
- S. 82 - Approved May 29, 1935, Public Law #82, which authorizes the disposal of abandoned improvements at Civilian Conservation Camps.
- S. 462 - Approved June 13, 1935, Public Law #130, which authorizes the addition of certain lands to the Willamette National Forest, Oregon.
- S. 1066 - Approved June 25, 1935, Public Law #164, which authorizes the acquisition by exchange of certain private lands within the Lincoln National Forest, New Mexico, reserving the minerals therein to the State.
- S. 1513 - Approved June 13, 1935, Public Law #131, which authorizes the addition of certain lands to the Siskiyou National Forest in the State of Oregon.
- S. 1680 - Approved May 24, 1935, Public Law #68, which authorizes the addition of certain lands to the Deschutes National Forest, Oregon.

- S. 1831 - Approved June 20, 1935, Public Law #156, which transferred certain lands from the Cibola National Forest to the Zuni Indian Reservation, New Mexico.
- S. 2649 - Approved August 27, 1935, Public Law # , which sets aside certain lands within the Prescott National Forest, Arizona, for recreational use by the city of Phoenix, Arizona.
- S. 2695 - Approved August 20, 1935, Public Law #288, which adds 185,000 acres to the Medicine Bow National Forest, in the State of Wyoming, and makes the forest exchange act applicable to 256,000 acres of privately-owned lands.

CHEMISTS LEARN BASIC SECRETS OF HOW GREEN LEAVES MAKE FOODSTUFFS

Science is finding out what goes on in a green leaf. All life depends directly or indirectly on the process, known as photosynthesis, by which carbon dioxide gas from the air is combined with water to make food to supply energy to living things. Energy comes from the sun directly or indirectly, but it has to get into food through the medium of the green coloring matter in plants. If the process ever failed, all life as it exists today would cease within a short time. But if man can find out how the green leaf chemical factory works, it is possible and even probable, chemists believe, to adopt and even improve on the natural method by avoiding some of the natural difficulties.

Dr. Dean Burk of the U. S. Department of Agriculture reported to the biological symposium recently held at the Biological Laboratory, Cold Spring Harbor, N. Y., that he and Hans Lineweaver, working at the Fixed Nitrogen Laboratory in Washington have already determined five of the principal chemical reactions that take place in a plant when carbon dioxide gas and water are converted to a carbohydrate through the action of chlorophyll and sunlight. This is the basic photosynthetic process. "It is now certain," says Doctor Burk, "that it is only a matter of time until several more sub-reactions will be discovered."

At the Biochemical Division laboratory of the Bureau of Chemistry and Soils the two investigators have simplified their efforts by studying some of the simplest organisms that have the ability to fix nitrogen gas from the air or to draw carbon dioxide gas from the air and fix it as an organic substance. The basic reaction, they find, is the transformation of carbon dioxide and water into a primitive carbohydrate. They have learned how it is that the relatively small quantity of green matter can do so much. The reason is that the green coloring matter is used over and over again unchanged. It is one of the substances known as a catalyst which enters into and promotes chemical changes but does not itself come out in the product of the chemical action. The chlorophyll and an enzyme (also a catalyst) combine with carbon dioxide from the air to make a new chemical substance. Energy from the sun enters into this reaction. The new substance is one of the great group of carbohydrates which include most of our common foods that supply heat and energy. Once this primitive carbohydrate is formed, a new chemical process starts and the chlorophyll and the enzyme come out of the combination and are then ready to start a new cycle all over again. The primary carbohydrate retains, however, the energy from the sunlight.

They have carried the process a step further. Neither plants nor animals (including man) can live by carbohydrates alone. All but a few of the simplest organisms need proteins, the foods that include nitrogen in their composition. The supply of nitrogen is unlimited. Nitrogen gas makes up four-fifths of the air we breathe. But we breathe it in and breathe it out again. The higher animals are not able to "fix" this gas and make use of it. Some plants can, but they must be supplied with the energy required in "fixing" it. This energy, Burk and Lineweaver find, comes not directly from the sun, but from those carbohydrates manufactured by the photosynthetic process taking place in the green leaves. It takes about as much energy to "fix" a pound of nitrogen gas as it does to fix a pound of carbon dioxide gas.

YE EDITOR DISCOVERS

An example of recovery of a sawmill ghost town after several years will be of interest to many in the Service. A lumber company which began operations on the Suwannee River near the Florida-Georgia State line in 1898 and established a modern, electrically lighted town of 1,200 people, nineteen years later, in 1917, after cutting all merchantable timber, was forced to declare itself bankrupt. The company town, with improvements, was sold at bankrupt sale for \$4,000. The inhabitants scattered, only a few score remaining to eke out a precarious existence. The settlement for a time was a mecca for hi-jackers, moon-shiners, and rum-runners.

Then, in 1926, recovery started. A Georgia corporation purchased 210,000 acres of cut-over and other lands, the bulk of it from the former company; bought the town and renovated it; employed a forester; and began operations. A large number of crops of naval stores are now being worked, and the number can probably be doubled in the near future. In addition, there is considerable merchantable stumpage, which is also increasing under proper forest management. The town revived by this company will probably develop to half again the size that it was under the cut-out-and-get-out policy and will become a permanent, prosperous community.

E. E. Carter, who is a member of the group of foresters touring Europe under the sponsorship of the Carl Schurz Memorial Foundation, writes as follows from Switzerland:

"I have seen, when cold sober and serious:

"Cattle grazing on mountain slopes as steep as any we have in the National Forests, and where they have been grazing for 500 or 1,000 summers, with no erosion to speak of. Mouse-colored cattle at that.

"No over-grazing in a country so crowded that they mow the grass on the railroad right of way cuts and fills, for hay, by hand.

"Very few sheep in either Germany or Switzerland. The former is supposed to have a total of 3,000,000, but they are not where we have been.

"Game dominating silviculture in a country (Germany) that has to import 25 percent of its wood--dominating so much that they can't get natural reproduction even of conifers without fencing out the 'wild' animals. Domestic animals are excluded from the forests.

"'Wild' boar that let ten men come within 50 feet."

Additional Forest Service estimates for ERA funds were submitted to the Division of Applications of the National Emergency Council before the deadline established by the Council.

These total 33 regular projects in all Regions except Region 1 and Alaska and 9 Resettlement projects, involving in all \$37,850,506 at an average cost per man year of \$879, exclusive of the Resettlement cases. Probably because of the President's absence from Washington, the meeting of the Advisory Committee on Allotments, which was scheduled to be held on September 17, was postponed indefinitely. It is understood that a meeting will be held as soon as the President returns to Washington.

In addition to the projects submitted through the Washington Office, Region 6, in cooperation with the State WPA Director for Oregon, has submitted an application for approximately \$250,000 to be used in constructing a hotel near timberline on Mount Hood. The plan provides for the construction of accommodations for winter sports and other recreational facilities, as well as for the hotel buildings.

Follow-up questioning through the WPA has found that most of our regular projects are making good progress towards the Chief Administrator's office for final approval.

The failure of the Advisory Committee on Allotments to hold its meeting on September 17 also leaves the transient camp program in a suspended state. Regional Foresters have been informed that participation by the Forest Service in this program probably will be limited to camps now working on the National Forests and to other camps which may be handled by State Foresters on State Forest lands. Perhaps the most interesting camps to be absorbed by the Forest Service under this line-up are those which are operating sawmills and dry kilns in the Black Hills. "Interesting" may not be the correct word to be used in respect to these camps, but Region 2 will doubtless supply the proper one, or ones, within the next three months.

The date of the staff meeting of Regional Foresters and Directors of Experiment Stations in Washington, D. C., has been changed from October 1 to November 18 and will follow the meeting of the Forester's special committee on fire control, which is scheduled to be held at Spokane, Washington, November 4.

Regional Foresters Peck and Rutledge have been asked to represent the Governors of two of their States at the National Recreation Congress, to be held in Chicago September 30 to October 4. Mr. Silcox, who has been asked to address the meeting on the subject, "Planning the National Forests for Greater Recreational Uses," will be unable to attend, on account of Budget hearings. He will probably designate either Peck or Rutledge to deliver the address for him.

Regional Forester Buck has been designated to act as correlater in the preparation of data on the forest situation in the Columbia River Basin. This will be part of a comprehensive report which is being prepared on the Columbia Basin by the Pacific Northwest Regional Planning Commission, Marshall N. Dona, Chairman. Three Regions and three Experiment Stations are directly interested in the area covered by the report and will prepare material for it. The report is due on October 1.

Julian E. Rothery, who served in Region 4 during the period 1908-1912, has reentered the Forest Service. He has been assigned to the Division of Timber Management in the Washington Office and will handle, principally, the acquisition, appraisal, and industrial phases of the Division's work.

SNOW COVER PROTECTS JAPANESE BEETLE LARVAE

In order to obtain some data on the influence of snow cover on soil temperature, report Mr. Harley and T. N. Dobbins of the Bureau of Entomology and Plant Quarantine, the snow was removed from a plot about 15 feet square and the soil temperature at the 3-inch level was obtained with thermometers and recording thermographs. The lowest temperature in grass sod beneath the snow was 32.6° F., in bare ground covered with snow, 26°, and in bare ground with the snow removed, 15.4°. The air temperature was below zero on several nights during this period, the lowest record being -9°. From laboratory studies it is known that a temperature of 15° is fatal to all larvae of the Japanese beetle subjected to it for only a few hours. It is evident, therefore, that periods of low temperature such as experienced this year in the absence of snow will prove fatal to many larvae of the Japanese beetle, whereas with a snow cover there is little likelihood that the larvae will be affected by the low temperature.

E. R. A. PROGRESS REPORT - MEN WORKING

(Week ending September 16, 1935)

Region	Number of Relief Rollers plus Ten Percenters		Percent of Schedule	
	Scheduled To Employ	Actually Employed	This Week	Previous Week
Gr. Total	19,210	17,156	89.3	84
R-1	4,500	2,756	61.	59.5
2	1,430	1,199	84.	80.5
3	800	818	102.	98.
4	1,500	2,243	150.	138.
5	1,697	2,164	128.	110.
6	1,951	1,801	92.5	87.
7	1,066	1,133	106.5	111.
8	2,179	1,678	77.	77.5
9	1,693	1,709	100.5	87.5
10	70	7	10.	0.
SB	1,299	684	53.	51.7
RES.	1,025	964	94.	90.

(Uniform employment yearlong rather than employment in excess of 100 percent at any one period is, of course, most desirable)

MORE INDIAN FIRE!

"On Wednesday the 19th of October, a party of Indians about seven miles off Hatfield in the woods, made several great fires, to make the English think they were there, but as soon as ever they had set fire to the wood, they came directly towards Hatsfield, and about two miles from Hatfield they lay in bushes by the wayside undiscoverable, thinking to cut off the English in their way to the fires; about noon, they of Hatfield sent ten horsemen well armed, to scout out and see what is the matter in the woods; and in ther way the Indians at once shot down nine of them, and the other returned to Hatfield to carry the news." (Letter dated from Boston, November 10, 1675.)



SERVICE BULLETIN

CONTENTS CONFIDENTIAL

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Robert Roosevelt

Vol. XIX No. 21

Washington, D. C.

October 14, 1935

THE PASSING OF PUBLIC RELATIONS

By John D. Guthrie, Washington

Jones' article "Let Us Not Forget" in the Service Bulletin of September 16, is much to the point in these days of forestry's supreme opportunity to sell itself to the American public. Unfortunately, however, it looks as if we have for the most part already forgotten what public relations really is! Maybe it is well for us to look back a bit and recall certain facts.

Public Relations as a public contact, information, and administrative unit was formally set up in Forest Service Order No. 49, May 17, 1920, signed by W. B. Greeley. Everyone knows that information and education work had been carried on since the beginning of a federal forestry agency back in 1876. But it really was not until Pinchot's time that public information was recognized as an asset as well as a responsibility. The office went by various names until 1920, when Greeley recognized "public relations", a term just beginning to be adopted in the industrial and commercial world.

The 1920 order recognized its importance and set it up on a parity with other branches in the Forester's office. H. A. Smith logically became the first branch chief. He was succeeded by Redington (when State Cooperation was added), then followed Stuart, Peters, and Morrell. Gradually thereafter, most of the Regions one by one fell in line and set up P.R. offices; a very few kept it as an adjunct to the Regional Forester's office.

Then, for reasons of alleged economy in about 1932, a Region or so did not fill vacancies in their P. R. offices, or combined P. R. with some other office. This gradual disintegration went on until 1935, when only two Regions are left which still have a separate office of P. R. with an A. R. F. in charge, and it has now disappeared entirely from the Washington Office. If you look for it in some Regions, you'll find what is left of it concealed under Lands or under what is left of Operation. Sometimes it is called a "service" agency and sometimes it is a "ghost writer." The above are about the facts.

Now certain leading questions come to mind which might well be asked right here. Has P. R. failed to justify itself, to pay for itself as a unit of organization? Was it ever universally "sold" to the Service as a whole? Were its purposes, aims, and possibilities ever fully realized? Were there many higher forest officers who never understood what public relations is or recognized its place in the U.S. F.S.? Were there not many who looked at it as a watertight compartment, as distinct a unit of organization as Lands, or Operation, or Forest Management and not as a "sales agency" for the entire Service

in contacts with the public? Wasn't it too generally regarded as a service agency, to fill requests for forestry information, issue press hand-outs, supply canned lectures and movies, and nothing more?

As Jones says in his reference to the "two schools of thought" (but what is in reality two types of mind)--one school held that if we planned our work and did it well, the public would some day discover our good work and give us its approval. This is the mouse-trap-in-the-woods school, perhaps efficacious in Emerson's day but woefully outdated now. No machine-shop type of mind can conceive of what public relations is or might be. That mind can only reason that if one goes through certain prescribed motions that certain very definite results should follow in a certain very definite time. This mind works only in terms of materials, physical things, whereas Bernays, Lippmann, Snow, Long, Creel, and even old Sigmund Freud, long ago told us that public relations is a thing of mass psychology. Today's public is no Diogenes peering his lantern into dark bureaucratic corners or musty scientific attics to find an efficient government bureau!

Our friendly critic on the Milwaukee Journal stated a truth a few years ago when he said of foresters: "Hard work alone never wins a proper reward",--and again, speaking of foresters, "Their good work alone will not establish them." And here I may say that the true inwardness of public relations was always better understood and appreciated on the National Forests and by State Foresters than it ever was in the Washington Office.

The significant, the strange thing is, that since 1920, when Public Relations was born in the Forest Service, the business world, the fraternal or social world, and even the educational world, have come to understand the term "public relations", to realize its value, and what is more important, to set up a public contact unit under that name. The following are just a very few of the organizations and institutions now having public relations departments--General Motors, American Telephone & Telegraph Company, The Northern Pacific and Seaboard Airline Railroads, Motion Picture Corporation of America, Trade Association Executives of N.Y., Harvard University, Whitman College, the Navy Department, and the U.S. Biological Survey, which has within the past year organized a Division of Public Relations!

The American business and government world has seen the valuable asset a public relations office or department can be, and has adopted it, is using it, and is paying good money to keep it going. But the Forest Service, in its latter-day wisdom, has given it up! Why?

PARACHUTE DEVICE DESIGNED IN REGION 4 TO DELIVER FIREMEN TO FIRES

Some attempt has been made in Region 4 to adapt regular parachutes for the delivery of firemen by aeroplane to fires, without the aid of prepared landing fields. Parachutes have been used a number of times to deliver tools and food supplies to crews employed on isolated projects, and recently another Region has stated that it is practical to deliver fire water pumps to fire crews by the same method.

The adaptation suggested in Region 4 has for its most vital features a quick releasing safety harness and the addition of a one and one-half inch diameter tube to the perimeter of the parachute, which when inflated causes a quick and definite opening upon release. To further minimize freefalling distance the fireman descends through an aperture in the aeroplane floor, down a light-weight ladder until suspended on the shroud lines. At a selected moment the pilot releases the suspended man, whose weight draws the parachute from its container in the ship floor. A split second finds the aeroplane gone with the man suspended in air. This type of delivery, practicable two hundred feet and less above the ground, permits fairly accurate landing at selected areas under favorable conditions.

The proposition is to deliver quickly and safely to new fires limited numbers of highly effective firemen to suppress fires while small.

There are other details not mentioned here. Only limited proof of the practicability of this idea is available in the form of thirty-four consecutive successful drops of a one hundred sixty-five pound iron dummy, at the Ogden Airport, at elevations from four hundred to one hundred fifty feet above the ground in wind conditions practically zero to about fifteen miles per hour. This was followed by two successful deliveries of a man under similar conditions.

The question is whether this suggested plan can find a place in the fire protection scheme to reduce costs and burned acreages. It has been referred to the proposed Spokane Fire Equipment Laboratory for decision. - Region 4

MICE ARE TO BLAME - BUT NOT ENTIRELY

By Hermann Krauch, Southwestern For. and Range Expt. Sta.

As one more commentator on Munns' article, "On Mice and Men," appearing in the February 18, 1935, Service Bulletin, I wish to call attention to some results in which direct seeding was employed as a basis for a study of factors influencing the reproduction of Douglas fir in the Southwest.

In this study three adjacent areas were laid out, one of which was fenced against both rodents and livestock, one was fenced against livestock but not against rodents, and the third was left entirely unprotected. On each of these areas seed was sown in meter-square plots directly under the crowns of trees and outward into openings. In most of these sowings the soil was first loosened to a depth of 2 or 3 inches and all herbaceous vegetation removed. After sowing, the seed was covered with a thin layer of loamy topsoil. A few plots were, however, established in which the seed was simply scattered on top of the undisturbed forest floor. Sowings were made in the fall and in the summer four different years, beginning in 1932.

Good results were obtained only inside the rodent-excluded area. On the other areas practically all sowings turned out to be failures, primarily because mice killed the seedlings shortly after they came up. Since mice killed just about as many seedlings on the area accessible to livestock as they did on the area from which stock was excluded, it appears that grazing has very little influence in hindering the establishment of natural reproduction. In fact, moderate grazing is to be regarded as beneficial to reproduction in that competition from herbaceous vegetation is thereby materially reduced.

Although the need of rodent control is clearly indicated, it is not believed that this alone is sufficient to insure adequate restocking. For, although good results have been consistently obtained where rodents were excluded, this has been true only where the soil was loosened and the seed carefully covered. After all, much depends upon cultural measures, of which seed covering is among the most important. However, in practice this is seldom accomplished, because cutting and logging operations are not timed to periods of natural seedfall.

HASTY NOTES FROM A HASTY TRIP

By Roy Headley, Washington

During the 44 days from August 7 to September 19, inclusive, Messrs. Keplinger, Randall, and I were on 40 National Forests in 7 Regions. We visited 2 Range and 1 Forest Experiment sub-Stations, saw numerous Shelterbelt strips and hundreds of miles of Shelterbelt country in 3 States, met 400 (estimated) of our personnel, and had contacts that were certainly productive, for us at least, with 100 of this number. We figure that we visited at least 75 CCC camps, staying long enough to make quick inspections of the things that I had been asked to look into. In pursuance with the Forester's request, we got into 5 transient camps and learned something about methods, point of view, accomplishments, etc., in this type of relief work. We saw hundreds of ERA men at work and heard many disheartening stories of the procedural difficulties that are being encountered, but we got practically unanimous and surprisingly good reports as to the type of men we are getting and the spirit with which they take up our work. Keplinger had a training and personnel management session of several days at Missoula with Messrs. White, Pitchlynn, Hodgson, and Lee P. Brown. Randall struggled heroically to keep notes, recording at least the names of men we met and the places at which we stopped. For his own work he collected many interesting notes and tall stories - some of them very tall. Several bad fires and personnel trouble cases were inquired into.

Caustic things may easily be said about field inspection at such high speed, but if one has only the 44 days we had in which to learn as much as possible about what is going on, the plan followed has much to commend it.

When one stranger after another discovers that we have a remarkably fine body of personnel, it is, naturally enough, no news to me. I must admit, however, that a trip such as we took produces a special kaleidoscopic effect which gave me a fresh realization of the high character and potentialities of Forest Service personnel. To the next man who says to me, "We need forestry statesmen", my answer will be, "We've got them." Despite occasional dumb things done and occasional opportunities lost, an overwhelming number of instances can be cited in which men, from District Ranger to Regional Forester, have shown themselves to be astute, sure-footed, ingenious, aggressive, and ready to do expert team work.

Our first day's experience on a National Forest touched our party off on a chorus of criticism of our recreational developments, which we pretty much kept up from almost the Atlantic to almost the Pacific and back again. We were surprised and disappointed that recreational development work seemed to us to have been allowed to lag behind other types of work done with emergency labor and funds. There were exceptions to this general lag, some of them in quite unexpected places, which made us all the more confident in singing our critical chorus.

We found that the Forester's 1935 fire suppression policy had not been very well understood in places - or if understood had not been applied as responsively as expected - and these findings gave us an opportunity to play our appointed role of hard-boiled inspectors.

We saw so many nurseries, particularly in Region 9 and in Shelterbelt country, that it almost seemed as if all the vacant spaces in the country will be planted up within a year or two. Although incredulous at the start, we were finally convinced that there is something of a timber sale boom occurring from the Lake States to north Idaho, inclusive, at least. The Black Hills Forests expect to cut about up to their sustained yield limit in supplying the mysterious demand for lumber which seems to have sprung up.

If anyone has lingering doubts that trees can be grown in the Shelterbelt States, he may as well take it from me that it can be done, and thus avoid traveling the hundreds of miles we covered in finding out that damage from drought to old tree plantations in the Shelterbelt area is surprisingly small and that survival in our spring planting on the Shelterbelt strips is remarkably good considering the circumstances.

Range men will no doubt carry on for years elaborate arguments as to how much our ranges have recovered - if any - as a result of the more normal precipitation following the unprecedented drought. As a mere layman, I may perhaps be permitted to express surprise and gratification that the recovery is so good, particularly in the desert portions of Nevada where precipitation has been both unusually large and unusually well distributed.

Our trip closed with a glimpse of the tier of acquisition forests lying on the southern side of Region 9. Among many deeply engraved impressions from those days, perhaps the outstanding one is the evidence on every hand of the social and economic decay which has fallen upon the countryside as markets failed, soil fertility declined after a hundred years of incredibly unintelligent cultivation, and coal mining and other industrial activities shrunk under the impact of the last five years. Timber conditions and timber producing possibilities are surprisingly good in most of these areas, but the evidences one sees of what is happening to human lives and the prospects for those lives in the years ahead cause one to weep or curse, according to his temperament or the mood of the moment.

INFLUENCE OF VEGETATION ON RUNOFF AND EROSION

By C. J. Krabel, California For. Expt. Sta.

In order to determine the influence of natural vegetation upon runoff and erosion, the California Forest Experiment Station established, in 1929 and 1930, six plots in Madera County, California. The plots were long and narrow and were located on a southwest slope having a gradient of 32 percent. Each plot was one-fortieth acre in size. The original vegetation on the plots represented a transition between brush woodland and ponderosa pine type. The soil is a fine, sandy clay-loam derived from weathered granite. Two of the plots were maintained with an undisturbed vegetative cover; two were burned over once, 1930, and allowed to re-grow; and two were burned over repeatedly, 1929-31-32-33-34.

During the rainy season 1933-34, twenty-one storms occurred. The following table summarizes the observations made of these 21 storms.

	Precipitation in inches	Runoff in cu. ft. per acre		
		Undisturbed vegetative cover	Burned once (1930)	Burned annually (5 years)
Totals	19.67	22	296	3400
Ratio for runoff		1	13	154
Erosion (cu. ft./A)		trace	.4	85.8
Ratio for erosion		0	1	216

The influence of vegetation is apparent from the ratios for the seasonal totals of runoff and erosion. That vegetation is the controlling factor is emphasized by the relatively small runoff and erosion from the once-burned plots upon which vegetation has been permitted to recover since 1930. On these plots a good growth of shrubs and herbs of the original pre-burn species is present, and this has begun to restore, through shading and

litter accumulation, the receptivity of the soil to water. These plots are therefore gradually approaching the condition of normal control exhibited by the wholly undisturbed plots.

On the annually burned plots repeated denudation has resulted in heavy loss of permeable humus-bearing surface soil, with consequent exposure of soil of lower organic content to the sealing and eroding action of rain. This soil degradation has caused proportionate deterioration in vegetation: shrubs which sprouted vigorously after the first two burns made less growth after the later burns; the dense herb and grass cover following the early burns gave way gradually to a larger proportion of tarweeds and other "weed" species which are less effective as soil binders than the earlier species.

In two of the storms the runoff was greater from the once burned plots than from the frequently burned plots. This is not uncommon. It is caused chiefly by the presence of a greater number of rodent burrowings on the frequently burned plot which make this plot more absorbent of the earlier rains than the less disturbed once burned plots. A second possible cause is the greater dryness of the annually burned plots after each summer's exposure to sun and wind, the vegetation on these plots offering less protection than the gradually increasing vegetation on the once burned plots.

Two other points of interest are brought out by the detailed records from the plots:

(a) Approximately one-half inch of rain is required for an effective storm, i.e. one which produces runoff from the burned plots.

(b) Once the rainy season is well begun and the ground of all plots thoroughly wetted, the runoff ratios for subsequent storms assume a relationship to cover conditions in line with that consistently obtained from similar plots elsewhere in California during the past seven years.

YE EDITOR DISCOVERS

The recent Forest Service estimates for ERA funds submitted to the Division of Applications of the National Emergency Council have been returned unapproved, with the exception of three projects involving research work, one involving four counties in Texas for National Forest Work, and one for some highway construction in Alabama. What action will be taken on these latter projects is unknown.

No action has yet been taken by the Works Progress Administration on nine resettlement projects that were made up for the Resettlement Administration through the cooperation of the Forest Service Division of Lands, involving a total of about eight million dollars. Two of these projects are located in Michigan and the others in Illinois, Minnesota, Wisconsin, West Virginia, South Carolina, Kentucky, and California.

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Representatives of the Soil Conservation Service started on October 1 for a two months' trip through the Grand Canyon of the Colorado. The survey to be made during the course of the trip will be made by the Fairchild Corporation. Several flat-bottomed scows will be used to transport the men and supplies, which will have to pass through many miles of swift flowing rapids before the trip is completed.

Of particular interest to the Forest Service will be the test given Forest Service radio sets, which will be the only means of communication with the outside world, except at one point, during the entire journey. The radio equipment consists of a Type M set with gasoline generator, and a PF set and kit of dry batteries to be used in case the larger Type M set is damaged. Communication each evening will be had with another Type M set located at the Desert Range Experiment Station in Utah, at which point a full-time radio operator will be employed for the duration of the trip. The difficulties of transmission from the narrow, deep canyon will be a severe test for the Forest Service type of radio outfits.

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Hearings before the Bureau of the Budget on appropriation estimates for the Department of Agriculture are scheduled at this time (October 3) to begin on October 7, and will probably last about three weeks. Regional Forester Kelley and Acting Director Paul Roberts of the Shelterbelt, who are now in Washington, will lend assistance in presenting to the Budget Bureau the financial needs of the Forest Service for the fiscal year 1937.

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The Chesapeake Corporation at West Point, Virginia, manufacturers of kraft board "liner" stock is at present securing all of its pulpwood from private woodlands within reasonable transportation distance of its plant by truck and water, and is cutting no pulpwood from its own property.

One of the outstanding features of the forestry policy of this company is that it will purchase no pulpwood cut from private lands unless four loblolly pine seed trees bearing cones are left per acre. The Corporation's forester is also doing some splendid educational work through the establishment of exhibit plots along the main roads that demonstrate the practice of leaving seed trees, making selective cuttings, and thinnings.

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The sixth release of the screen feature "The March of Time" has a considerable portion devoted to the work of the CCC. Representative groups of CCC boys from Washington to New Hampshire and shots of many jobs in the National Forests and Parks are shown in this picture, which opened in first-run theaters throughout the country on September 20 and will continue for four weeks at second and third-run theaters.

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In Scientific Monthly (August) Professor F. A. McClure of Lingnan University, Canton, China, writes on bamboo, including both taxonomic studies and a discussion of its economic possibilities in the United States. He lists both desirable qualities and undesirable and says, "Very probably bamboo will soon be recognized as a soil-binding plant to prevent erosion, as a forage plant on eroding areas, and more widely as a food plant." He also says: "But there is another point at which I believe bamboo is going to make a really dramatic entry into our economic life, and this is as a paper pulp material. The process of pulping bamboo has already been patented in all the leading countries of the world, and a large paper mill has been established at Foochow, China, which is said to be capable of pulping even the mature stems. We are now importing considerable quantities of wood pulp from Canada and Europe. And it remains to be seen whether we shall import bamboo pulp from the Orient, as soon as their supply exceeds their demand, or whether we shall make an attempt to produce bamboo on a scale sufficiently large to support a pulp industry here. Perhaps we may witness both of these developments within the next few decades."

CCC EDUCATIONAL ACTIVITIES EXPANDED

Final arrangements have been completed for expanding CCC educational activities during the winter period running from October 1 to April 1.

Operating in an advisory capacity to the War Department, Mr. Oxley and his associates in the U. S. Office of Education have spent the last several weeks in gearing up CCC instructional services to handle a more widespread program. The new enrollment period will require schooling facilities for approximately 500,000 youths. This figure represents an increase of 150,000 men over the CCC enrollment of last winter.

Recently, Director Fechner made available additional funds to care for the expanded educational needs and to provide necessary instructional facilities in the camps. The number of educational advisers has been increased to 2,200, and seventy-eight district advisers have been appointed to coordinate camp programs of instructions.

A "Manual for Instructors" and a series of fifteen "Lesson Outlines" on subjects of vocational importance are being distributed to camp advisers from the Office of Education. These publications were written to assist advisers in perfecting their methods of presentation and in stimulating the interest of enrollees. This material will also serve to strengthen the content of CCC courses. - From a Press Release issued by Director's Office, ECW.

VANDALISM CAUSES RETURN OF WOODEN SIGNS IN R-3

A study of the Region 8 sign shop methods was made recently at Franklin, N. C., by E. P. Ancona of the RO. The shop has been operated for the past five or six years by Region 7, and now by the year-old Region 8 at the headquarters of the Nantahala Forest. This shop, operated under direct technical supervision of the Regional Engineer, has developed a stencil and spray system of manufacture of wooden signs for roads and trails, that is distinctly different from any method employed elsewhere. The result is a durable and neat sign made cheaply and quickly with a minimum of hand labor.

Orders have been placed for stencils, and plans are under way to set up a similar shop in Albuquerque. It will be thirty to sixty days before the first signs will be coming out. The accumulated orders of the past two years will be tackled when the new equipment is available.

The return to the wooden sign was the only solution to the problem of overcoming the high percentage of losses, through vandalism, in the porcelain enamel signs that have been in use in this Region for the past ten years. This Region also has a post card form for mailing to those who scribble their names on signs and improvements. - From R-3 Bulletin

SHOWBOAT OPERATORS PROMOTED

Five showboat operators in Region One have been promoted from CCC enrollees to positions in the overhead and facilitating personnel classifications under the title of skilled workers. The men have been on showboat work for periods varying from six months to two years. - From R-1 Bulletin



SERVICE BULLETIN

CONTENTS CONFIDENTIAL

WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES. IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT ***THE TIME HAS COME FOR A CHANGE. AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY *** TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES. WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER

Theodore Roosevelt

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PLANS FOR LAND USE AND RESETTLEMENT PROJECTS

By C. S. Robinson, Santa Barbara

As in all introduced subjects, we of the Forest Service who have to do the work in the field will undoubtedly be given sets of formulated plans from which a start can be made. These plans, provided they are not too detailed and do not demand all the information at once, should help in approaching the task, but no form or regulation can provide for the astounding individual problems that will arise. In common with others, I sincerely hope that we do not have another "work-plan" excitement and spend hours of badly needed effort only to have the project fall flat after a year or so.

Personally, I do not expect to see more than ten percent of the approachable prospects succeed if the basic plan does not consider the desires of the individual primarily concerned - the starvation homesteader. Experience with this type of person has taught me that no matter how rosy a picture we can offer for a swap or sale, the nester wants to remain. The place is his home no matter how poor and inadequate it is to furnish a living. The lust for large numbers of stock has often been the downfall of western stockmen and it is applicable in acres to the western farmer.

I offer as a suggestion that a system of leasing be adopted by the Government of such places after an outright purchase has been made. It means, of course, that the United States will have to buy first and lease back to the prior owner the area in question. Under this plan a use-permit would be made up calling for a certain showing of standards of production or the land would be returned to the lessor. If the nester cannot fulfill the requirements then he quits.

The Government becomes an owner of tenant farms, if you want to put it that way, and in so doing proves that the previous owner, provided he is agreeable, can or cannot make a living on the lands in question.

Those of us who deal with these people know how deep rooted they become to their hopeless holdings. If you acquire by condemnation, then the "rugged individualists" will raise a terrific ballyhoo. If you can somehow prove to them that you are right while they are still on the job, then you should get a certain measure of cooperation. Of course, inflated values will be put upon lands by owners who cannot make a living, whose misuse has robbed the soil of its producing power.



Three major proposals for action were made last January. They are: Immediate speeding up of land acquisition and supply of planting stock; over the next four years to gradually work up the planting program to 30,000 acres per annum; thereafter, to continue expanding the program up to a maximum of 40,000 acres per annum.

Interesting developments have been made in the systematic establishment of forest workers' holdings - a policy adopted in 1924; from that time until 1931, it was principally a scheme of land settlement, though useful in planting and protection of the forests. Since 1931, the creation of new holdings has been restricted to such as are essential to the proper working of the forests. The system has been successful, as there have been comparatively few changes in tenants and no difficulty in re-letting vacant holdings. The holders, most of whom started with no capital, now own livestock to the value of 43,173 Pounds.

Comparable to some extent with our own CCC are the Ministry of Labor's Instructional Centres and Camps which operate on or near forest land. Started in 1926 the movement gained momentum, until there are now 28 such camps wherein men from areas of heavy and prolonged unemployment are given a three months' training course to develop physical fitness. Their work is similar to that of the CCC; it includes clearing sites for forest roads, quarrying stone and laying road foundations, building bridges and culverts, drainage, scrub clearing and grubbing roots. The men also serve as forest fire fighters. Forest officers, according to the Report, cooperate with the Centre Managers in making preliminary arrangements, but the latter are responsible for execution of the work.

The Report includes detailed information and tables on planting by area, expenditures, developments of forest technique, weather conditions, progress in education, research, and experiment.

CHANGE FROM THE OLD ORDER

By B. F. Heintzleman, Washington

The Kinzua Lumber Company, a ponderosa pine operation established in 1928 near the Umatilla Forest, in central Oregon, is building up an enterprise of a type which is very new in the western lumber industry. Many persons who have seen it believe that plants of this kind must become the standard rather than the exception if that industry is to become stabilized and profitable, and is to gain widespread public support.

This is a medium-sized operation - not one of the featured high-speed, huge-capacity, heavily-capitalized projects whose executives are financiers rather than lumber manufacturers and merchants. It cuts around 30 million feet yearly and operates on a five-day, 40-hour week basis. It has gone intensively into remanufacture and fabrication to find a wider and steadier market for its output. Apparently it seeks orders for anything and everything that can be made from ponderosa pine. Among its numerous products, aside from a wide range of lumber items, are blocks for all kinds of toys, bridge tables, turned chair parts, seats for kiddie-cars, and glued built-up tops for ironing boards. These items go out to all sections of the United States by the carload. There has never been a refuse burner. Practically all raw material goes into salable products except knots, sawdust, and thin slabs, and these, of course, are used under the mill boilers.

As a result of this processing policy and in spite of being a mere fledgling when the devastating 1929 bolt descended, the company has been able to operate continuously throughout the depression. It has had a very small labor turn-over and little labor trouble. Its dependent town has had no relief problems, and 30 percent to 40 percent more men are given employment in its plant than in sawmills of the common type.

The company employs a forester to mark its timber for cutting and is now studying the possibilities for a joint sustained yield operation based on company holdings (now owned and that might be acquired) and on the adjoining National Forest timber.

The General Manager takes an active interest in the many problems of the lumber industry as a whole and especially in forest conservation. He has recently been elected President of the Western Pine Association and a Vice-President of the National Lumber Manufacturers Association.

The success of this enterprise seems to bear out the recent remark of someone that the lumber industry's chief need is to have "some real thinking done at the top."

HOW THE NAZIS TREAT CARELESS SMOKERS

By R. C. Hall, Washington

According to the Deutsche Forstwirt of September 24 a man was sentenced by the court in Oldenburg to 8 months confinement in prison because he mixed smoking and peat digging. The accused had carelessly knocked out the glowing contents of his pipe, thereby starting a small grass fire.

Another offender drew down a fine of 500 RM for carelessly throwing away a lighted cigar in a woods near his home town in spite of the fact that no damage resulted.

At Osterndorff 300 acres of moorland was burned over. The fire started because a farmer from Meyerhof smoked while cutting peat. He appealed a sentence of 6 months in prison, but the higher court held that this punishment was called for by the new decrees for the protection of the property of the German people and accordingly denied his appeal.

Still another case of carelessness in setting out fire resulted in burning over a half acre of heath land, which cost the guilty party a fine of only 50 RM.

FIRE TRAIL DEVICE PROVES GREAT TIME SAVER

By J. F. Campbell

, R.6

To save precious moments in forest fire fighting and obviate the tedious work of clearing brush ahead of plows used for fire trail construction, Region 6 announces recent development of a tractor-drawn clearing rig which opens its own trail.

A thirty-five degree V-shaped plow blade 24 inches high is made for attachment to "35" tractors and so turned as to cast brush, debris, and small trees to the side of the fire line. About 2 feet above and projecting ahead of the plow blade a strong V-shaped bumper of similar angle is attached to the trail builder frame to protect the cat driver and exert additional leverage on saplings which the blade contacts at the ground level. The entire clearing plow equipment can be attached to the trail builder lift of a tractor in 30 minutes, a preliminary 15 to 20 minutes being required to remove the trail builder blade with which these tractors are ordinarily equipped. The new device is a valuable addition to modern fire fighting appliances.

Four of these fire line plows have already been constructed and preliminary tests as well as actual service on at least two fires indicate they are great savers of labor and time in trail clearing work which previously had to be done by hand. While designed primarily to meet the clearing problem they can be used in some soils for actually plowing the fire line. For the present they will in most instances be operated ahead of tractor outfits pulling modified Killefer plows.

In order to provide quick transportation to fires for road and other tractors up to the 35 horsepower size, four semi-trailer truck outfits of 8 ton capacity have been provided and stationed at strategic points for interforest use.

WHAT DETERMINES A DEER SEASON

By F. P. Cronemiller, R. 5

The manner in which deer seasons have become established has always seemed somewhat of a mystery. We can probably accept it as a fact that in many instances they have been set up for the convenience of the hunter rather than for the biological requirements of the animals themselves. However, in analyzing the summary of game seasons for the various States as covered in a recent issue of Outdoor Life there seems to be little rhyme and less reason in the present situation. Florida deer hunters take down their muskets on November 20, and the Vermont hunters on the following day, but South Carolina nimrods begin their attack on August 15; their sister State on October 1; and the boys from Atlanta must wait until November 15 to hunt within their own State of Georgia. The deer slayers in California start work on August 1, but in Nevada on October 1. The Oregonians may begin their bombardment on the 22nd of September, but in Washington it starts on October 20. The bulk of the seasons in the far West start in October, while those east of the Mississippi usually start in November and December; Mississippi and New Jersey opening on the 15th and 17th respectively.

The usual bag limit is one per season; however, in Louisiana, Alabama, and South Carolina, five may be taken. In North Carolina three, and in Georgia, Florida, Texas, Arkansas and parts of Oregon and California two may be taken.

With the early season many deer are taken in California before they are in prime condition, and much meat is lost through spoiling in the hot weather. Seasons, however, are found to be well in advance of the rutting season. In other States the mating season is evidently disregarded. Apparently we still have much to learn in regard to setting proper game seasons, or, if not, we have a big job to handle in educating legislators as to the needs of our game.

YE EDITOR DISCOVERS

The Resettlement Administration has decided to transfer funds to the Forest Service for the construction of three of the ten Forest Service resettlement projects submitted to the Works Progress Administration through the Resettlement Administration. The applications were rejected by the Works Progress Administration and returned to the Resettlement Administration. In view of their apparent soundness, Dr. Tugwell decided to allot funds already available to him for constructing three of the most promising of the ten projects.

The first step will be the preparation of detailed plans for construction. These will have to be approved by the Resettlement Administration before actual construction can start. Aside from this and the approval of land purchases the Forest Service is to have full responsibility.

Resettlement of this type represents a new activity for the Forest Service. If the current projects are successfully and economically executed they should be the beginning of an expanding program for the correction of maladjustments in population distribution, improved living standards, better educational opportunities, and stronger, more permanent communities.

Plans contemplate simple, inexpensive home units similar to the average good farm home in the respective localities.

As a basis for all of the resettlement projects, a thorough analysis was made of available employment in relation to population. Only those projects were recommended which assure reasonably adequate employment to provide both the present suitably located residents and the proposed settlers with the necessary income, or where resettlement land is available to permit the establishment of farming units of sufficient size to provide a full livelihood, if given sources of employment fail at any time.

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Because several members of the Forester's Special Fire Committee are so urgently needed in connection with other matters, it has been necessary to postpone the meeting on the Forest Service Equipment Laboratory, which was scheduled to open at Spokane on November 3, until January 20, 1936.

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Hearings on regular Forest Service estimates for the fiscal year 1937 were held before the Bureau of the Budget on October 7. Mr. Bell, Acting Director of the Bureau of the Budget, was present during the entire day. As heretofore, Colonel Dasher acted as chief interrogator for the Bureau of the Budget and displayed his usual surprising grasp of Forest Service problems and the written material presented in connection with the estimates for 1937.

Although the hearings were completed in one day, everyone present, including the men from the budget bureau, felt that the Forest Service had presented its estimates in an unusually impressive manner. During the forenoon Mr. Silcox outlined in a broad way the nature and magnitude of the various responsibilities of the Service. A large number of maps, graphs, and enlarged photographs had been prepared, and these were used to illustrate the various points made by the Forester in his general presentation. During the afternoon the various individual appropriations and "projects" were reviewed, and the general presentation in the forenoon was supplemented by the Forester and others responsible for various Forest Service activities. Regional Forester Kelley, Director Roberts, and Mr. Trayer of the Madison Laboratory attended the hearings and contributed to the presentation.

The Forester plans to use maps, charts, and enlarged photographs in the presentation of our estimates before the Congressional Committee even more extensively than was done in the budget hearings. Such material commands the active interest of listeners and inevitably creates a deeper impression than could be made by a merely verbal presentation of Forest Service work and opportunities.

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Luda Kirk of Chuckey, Tennessee, was recently given a maximum sentence of two years' imprisonment for wilfully setting fire to timber within the boundaries of the Pisgah National Forest.

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The Director of the Southern Forest Experiment Station says: "On more than 31,000,000 acres of rural land in the Gulf States, the taxes have not been paid for three or more years; 20,000,000 acres or more of this area is timber-growing land. The removal from the taxable land of these States of so large an area, valued on the assessment rolls at nearly a quarter of a billion dollars, is a serious problem, not only to the state and local governments in maintaining revenue necessary for essential public services, but also to the remaining tax-payers whose tax burden is increased."

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Twenty-five CCC boys in Region 3 and 38 in Region 5 have, so far, been promoted from the ranks to positions of superintendent, foremen, clerks, blacksmith, auto mechanics, truck drivers, tractor operators, forest lookouts, and forest guards.

WILLIAMS COLLEGE MAKES GIFT TO FOREST SERVICE

A 1500-acre tract of land in northeast Massachusetts has recently been donated to the Forest Service by Williams College. The tract is to be known as the Lawrence Hopkins Memorial Experimental Forest, and will be administered by the Northeastern Forest Experiment Station, where studies will be made concerning rehabilitation of New England Woodlands and abandoned farm lands which have reverted to forest growth.

In a letter accepting the gift, Secretary of Agriculture H. A. Wallace wrote to President Tyler Dennett of Williams College:

"Studies on the area will fill an important gap in our program of forest research in the Northeast and should be of value in providing a sound technical basis for management and restoration of woodlands and abandoned farm lands over much of New England, whether in private or public ownership."

The Hopkins Forest is situated in the extreme northwest corner of Massachusetts, adjoining Vermont and New York on its northern and western boundaries. It is just outside the limits of Williamstown where the College is located. The tract is typical of the abandoned farm land in the region; on about 1000 acres grow mostly northern hardwoods, including considerable birch, maple, red oak, and white ash in various stages of stocking. Some 500 acres are old hayfields. The land was formerly the estate of the late Colonel Amos Lawrence Hopkins, who used it largely as a sheep and horse farm. His widow donated the land to Williams College.

Investigations are to be carried on particularly in reference to the rehabilitation and best use of such lands. Work of restoring the area to valuable forest land will include replacing poor stock with better tree species.

The Forest will also serve as a field laboratory for Williams College, providing an opportunity for honor students to carry on special work in forest botany and allied subjects. The College has made available to the Forest Service for experimental use its own laboratory facilities, library, and greenhouses.

Work will commence upon the Lawrence Hopkins Memorial Experimental Forest this winter. A CCC camp will probably be established there soon.

LEGISLATION

By C. H. Squire, Washington

On September 6 the President disapproved H. R. 6776, an act to amend the Emergency Farm Mortgage Act of 1933, through conferring authority on the Reconstruction Finance Corporation to make loans to State taxing districts. The veto memorandum was as follows:

"The second provision of this bill extends government lending into a new field which might be construed to commit the Federal Government to a policy entirely too far-reaching -- that of lending to counties, districts, or municipalities, to enable them to take care of already existing bonded indebtedness".

On September 5 the President vetoed H. R. 3019, an act to amend the Taylor Grazing Act of June 28, 1934. The veto was recommended by the Secretary of the Interior and the Secretary of Agriculture. A memorandum from the Secretary of the Interior which accompanied the veto statement contained the following:

"The bill makes mandatory the exchange of State-owned lands for public lands of equal value, regardless of whether such exchanges are in the public interest, merely on the application of the State. These exchanges could be effected within, as well as outside of established Grazing Districts and it does not require any preternatural wisdom to foresee

that the States would select those public lands within a grazing district that are vital to the administration of a particular area. They could take away from the United States Government lands upon which it had expended public funds for fences, the development of water, and other range improvements, and which would produce revenue to the Government under the present leasing system * * * The amendatory act also provides that occupants of lands contiguous to isolated or disconnected tracts shall be entitled to lease them. The language is mandatory. Consider the effect in an area such as that in which odd-numbered sections have been granted to a railroad and even-numbered sections remain largely in public ownership. These public lands are already in the category of 'isolated and disconnected tracts', while the contiguous sections are railroad lands. It is common knowledge that vast areas of these railroad lands have been sold or leased to large and powerful stock-raising interests. Under the terms of the act under consideration the holder of the railroad lands and no one else would be entitled to lease the intervening even-numbered sections. Thus this provision patently would operate for the benefit of the large holder.

"The bill also authorizes employment of personnel without regard to the provisions of the Civil Service and limits employment to bona fide citizens and residents of the State in which service is to be rendered. This would mean that the employees in any grazing district whose chief duty is to maintain fair dealing among local permittees, would themselves be local residents subject to local pressure, to the vagaries of local factional strife, and to the whims of some dominant local stockmen. The Civil Service has proved itself an excellent medium for the selection of qualified employees and the maintenance of personnel free from the pressure of powerful local or self-interests. Civil Service rules should continue to govern employment in the grazing administration. Qualification and not residence should control the selection of personnel."

NEW CONCRETE METHOD

A revolution in concrete, which foreshadows significant improvement in construction, was demonstrated recently at the Yale University laboratories. This, it was asserted, makes possible a concrete from 30 to 100 percent stronger than that produced by present methods and which will harden and dry in about 20 minutes. The new method is the invention of Karl Paul Billner, New York City civil engineer. Mr. Billner's method consists in extracting the excess water in the fresh concrete immediately after casting and laying by a vacuum process. The vacuum not only quickly withdraws all the excess water but it also simultaneously compresses the concrete to make it dense and close up any voids due to the removal of the water. The dual vacuum action is accomplished by placing an air-tight cover on the concrete slab immediately after pouring and creating a vacuum between the cover and the concrete. This sucks out the excess water which is drawn off and collected in a vacuum tank. The vacuum under the cover at the same time creates a corresponding air pressure on top of the mixture to compress and harden the mass. - New York Times.



SERVICE BULLETIN

CONTENT'S CONFIDENTIAL

WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES. IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT ***THE TIME HAS COME FOR A CHANGE. AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY *** TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES. WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER

Thomas Roosevelt

Vol. XIX No. 23

Washington, D. C.

November 11, 1935

THE WASHINGTON OFFICE REORGANIZATION

By F. A. Silcox

Plans for reorganization in the Washington Office have proceeded rapidly and, on the whole, satisfactorily during the last month. They are not yet complete but they have now reached the stage where I can apprise you of them and of the major personnel assignments on which, to date, decisions have been made.

A picture of the reorganized Washington Office of the Forest Service is afforded by the chart shown on another page. Certain revisions have been, or will be suggested, although many minor as well as most major matters are by now pretty well fixed.

Selection of all personnel is by no means completed. I am, however, announcing the following, subject to vicissitudes of procedure which, though unforeseen, may still be possible in a few cases. Further announcements may be expected after the Regional Foresters' meeting in November.

1. To the office of the Chief, Forest Service.
 - (a) As Associate Chief, Earle H. Clapp
 - (b) As Assistant Chief and Advisor to the Chief, E. A. Sherman
 - (c) As Assistant Chief, Earl W. Loveridge, detailed as below (4-a).
2. To the "National Forest" group.
 - (a) In charge, as Assistant Chief, C. M. Granger
 - (b) As Chief of the Division of Fire Control and Improvements, Roy Headley.
3. To the "State and Private Forests" group.
 - (a) In charge, as Assistant Chief, Earl W. Tinker.
4. To the "Operations and Information" group.
 - (a) As Assistant Chief, Acting in charge, Earl W. Loveridge.
5. To "Acquisition"
 - (a) In Charge, as Assistant Chief, L. F. Kneipp
6. To "Emergency Conservation Work"
 - (a) In charge, as Assistant Chief, Fred W. Morrell.
7. To the "Research" group
 - (a) Acting in charge, R. E. Marsh.

Assignment for Mr. Tinker will be effective as of January 1, 1936. All others here mentioned are effective as of November 1, 1935.

NAMING THE NATIONAL FORESTS

By John D. Guthrie, Washington

On July 1, 1908, the names of most of the 154 National Forests then existing were changed. This change was the result of considerable thought, study, and historical research on the part of certain Forest Officers, aided by the advice and suggestions of historians, ethnologists, archaeologists and others. The point here was that the selection of suitable, dignified, and worth-while National Forest names was completed only after a lot of thought and study; it was not a hit-or-miss action.

In the 27 years since 1908 the number of National Forests has increased, especially during the last three years, and Acquisition is still flourishing. And now we may well look forward to a large increase in numbers of State Forests under the recent Fulmer Act.

The assigning of permanent names to these forest areas, federal and state, assumes even more important proportions. Have we any policy or plan for the selection of suitable names for National Forests?

In all frankness, it seems there is neither policy nor plan, but names are too often the result of snap decision or loose thinking. Recently, we haven't used much imagination in this matter of names for National Forests. As a consequence we have chosen names of creeks, states or counties, or otherwise unimportant and inconsequential local topographic features or political units already sufficiently perpetuated, and tied them to our National Forests, which are, we must realize, National and not county or local Forests.

In some cases we have even selected nicknames of States. For example: Hoosier for the Indiana National Forest and Hawkeye for the Iowa group! Shall we look forward to the Sunflower National Forest in Kansas and a Nutmeg National Forest in Connecticut? Why the Hoosier in Indiana when President Benjamin Harrison, a native Indianan, was the President to set aside the first National Forest in 1891? What more fitting and suitable name for the Indiana unit? Not to detract from old Chief Hawkeye's glories, but why not the James Wilson National Forest for Iowa? Then a new unit in eastern Maine is being called Grand Lake for a rather small and unimportant local body of water. Why not Cabot National Forest for John Cabot who sailed along the Maine Coast in the late 1500's? Mountain Lake, a small but unusual lake in southwest Virginia is selected for the name of a proposed million-acre National Forest in the Old Dominion. Why select such a common-place name in a State so rich in history? Why not call it Spottswood for the Colonial Governor of Virginia, Alexander Spottswood who in 1716 made his famous trip over the Blue Ridge with his famous "Knights of the Golden Horseshoe"? It is of interest, too, here to note that Spottswood's Journal of the trip refers often to his "rangers". Or why not name it for John Lederer, the first to climb the Blue Ridge Mountains in 1669? Then down in the Mississippi delta region there is a new National Forest, and the unimaginative and common-place name of Delta is selected. Why not De Soto, who discovered the Mississippi River in 1543? There are also Leaf River and Holly Springs units in Mississippi.

Indian names are fine and in many cases most suitable, but there is such a thing as overdoing even a good thing. Here's a collection of fine unpronounceable Indian names, many of which are already amply perpetuated in small streams and creeks: Ouachita, Apalachicola, Choctawhatchee, Kisatchie, Homochitto, Chequamegon, Kawishiwi, Sauratown, Wappapello, Kiamichi, Chickasawhay and Catahoula. Why omit Cococcola?

South Carolina with its rich historical background has these choice names: Wombaw, Long Cane, and Enoree. If these names are worth perpetuating aren't they already sufficiently honored? Florida, with its Spanish background and history, has a plethora of Indian National Forests. Why not have one for De Leon, who first saw Florida in 1513? Even one named for Jean Ribault, the Frenchman who was in Florida in 1562, would be a welcome change from too much Indian.



And now there's the Caribbean for the enlarged areas in Puerto Rico. Doesn't this name cover too much territory, including both British and French possessions? Why not call it Columbus, for it was at a West Indies island that Christopher landed on his first trip.

The Lake States have a rich and picturesque background of early French explorers and missionaries, some of whose names are properly chosen for its National Forests, but why not include La Salle, Joliet, Hennepin in the list? And why name Forests for two of the Great Lakes? Aren't they well enough known?

The Ohio and Allegheny regions are associated with Robert Fallam and Thomas Batts who crossed the Alleghenies in 1671. John Peter Salley traveled the Ohio Valley in 1741 and left a record of his trip. Pierre Joseph Blainville traveled from the Great Lakes down the Allegheny and Ohio to its mouth in 1749; Father Bonnecamp was with him and has left a good description of the tree growth seen on the trip.

Has Kentucky a National Forest named for Daniel Boone? No, it's named for the Cumberland Mountains. There are Cumberland Mountains and a river in Maryland and Kentucky (on Virginia line); counties in Kentucky, New Jersey, North Carolina, Illinois, Maine, Tennessee, Pennsylvania and Virginia; towns of Cumberland in Kentucky, Maryland, Rhode Island, and Wisconsin, and a Cumberland Valley in Pennsylvania. The Duke of Cumberland would seem to be sufficiently honored! Why not Boone--man of the forests and frontiersman?

Captain Bonneville's name is closely associated with the Wallowa Mountains of eastern Oregon (see Washington Irving's histories) and his name would be a more fitting one for this National Forest than the name Wallowa, already amply perpetuated in the mountains and the river of that name. (We had a Bonneville Forest in 1908, but dropped it later.)

Captain Cermenon was probably the first white man to see the Redwoods when he was shipwrecked in Drake's Bay in 1594, though John Bidwell in 1841 was the man who first advertised them. Why not select one of these names for one of the new Redwood units?

The argument for use of a local name is that it locates the National Forest immediately. It locates it in the minds of the local people (who don't need to have it located!) but not to many outsiders, and besides we can "sell" a new name for a National Forest if it is a suitable and worthwhile name, for we did it in 1908. Moreover, there is more interest in history, biography, and archaeology nowadays than perhaps at any previous time in our history.

There may be objections to using names of persons for the National Forests, but we already have at least 25 National Forests so named, including names of four Presidents (George Washington, Lincoln, Cleveland, and Roosevelt), but none for the President who set aside the first forest reserve. Why name any National Forest for a State? And yet we have the Alabama, Nevada, Nebraska, Wyoming; we changed within recent years the names of the California, Colorado, Washington, and Oregon. Why not name the Nevada for Senator Newlands, the Father of the Reclamation Act, a strong early-day conservationist and a real statesman? And why not change the Wyoming to the Harrison (unless this name is chosen for the Indiana unit), for it was the old Yellowstone Park Timberland Reserve which President Harrison set aside in 1891.

With forest purchases under the Fulmer Act we may expect eventually a large number of new but smaller state forests units, purchased (and possibly named) by the Forest Service. There should be correlation in these State forest names with the National Forest names, present and future.

(To be continued in next issue.)

SERVICE BULLETIN

CCC ACCIDENTS

By H. R. Kylie, Washington

The reporting of accidents by Emergency Conservation Works camps, each month, is a part of the Safety Program.

Out of a total of 6,943 lost time accidents during the month of August, we find that the greatest causes were -

1. Falls of persons.....1,720
2. Hand tools.....1,495
3. Handling objects..... 979
4. Falling objects..... 649
5. Vehicles..... 601

NOTE: (A lost time accident is one causing loss of time beyond the remainder of the day or shift.) During the month of August, 1935, there was a total of 64 accidental deaths.

The following table for August shows the distribution of fatal and non-fatal accidents by Corps Areas. It also shows the total man power in each Corps Area together with the number of accidents per one thousand enrollees:

<u>Corps Area</u>	<u>Number of Men</u>	<u>Deaths</u>	<u>Lost Time Accidents</u>	<u>Accidents per 1,000 Enrollees</u>
Second	68,200	5	377	6
Fourth	96,400	15	986	10
Eighth	61,200	6	614	10
Third	49,200	4	618	13
Sixth	62,480	10	788	13
Fifth	48,200	8	667	14
Seventh	79,790	5	1,106	15
First	36,600	1	389	17
Ninth	<u>80,400</u>	<u>10</u>	<u>1,398</u>	<u>17</u>
Total	582,470	64	6,943	12 (average)

Below is summary for the last sixth months, showing total number of accidental deaths and accident rate per thousand enrollees, per month:

<u>Month</u>	<u>Death</u>	<u>Accidents per 1,000 men</u>
March	33	15
April	26	11
May	33	15
June	48	13
July	48	12
August	64	12

CONTROLLED BURNING?

By H. N. Wheeler, Washington

The controlled burning idea starting as a spark several years ago, after smoldering along, seems now about to burst into a conflagration. Some experiments in the longleaf pine area seem to show an advantage for timber reproduction if the land is burned over under a very restricted form of control. Publication and oral discussion of findings on such burned areas have stimulated other experiments, and some guess work, and now some people are claiming that burning in longleaf pine is almost wholly beneficial. Claims are made that there is less acid and more nitrogen on the burned lands. Others reiterate the claims of the natives

that fire destroys ticks, bugs, snakes, etc. No investigator, so far as is known, has stated that fire destroys malaria and typhoid germs, or will cause more rain to fall, as some old hill billies state. No doubt fire does kill ticks, bugs, and an occasional snake, but the supply seems to grow no less. No doubt fire destroys the brown spot on the needles it burns, but some observers say in a year or two the brown spot is back on the same area.

It is claimed that if fire is kept out for some years, when a fire does start it will be hotter and do more damage. No doubt this is true. But the answer is not that we must burn the ground every year or every few years, but that we must spend more time, money, and thought keeping fire out. Those who have discovered fire to be "beneficial" haven't yet found that the porosity of the soil is improved. In fact, the University of Florida and other investigators find the ground is hardened and made less porous where burned. Is that not enough in itself to condemn burning, even the so-called controlled burning? The soil must be kept loose and porous so water will sink into the ground.

According to Dr. Austin Cary, longleaf pine trees scorched so that the needles were burned off were slowed up in growth 60 percent the first growing season after the fire, 50 percent the second season, and 35 percent the third season, an average for the three years of 45 percent. What will the fourth year show? Even a controlled fire will burn off the leaves of young trees, slowing up their growth, as shown by Dr. Cary's experiment. Will not that reduced growth be greater than any retardation caused by brown spot? Dr. Cary showed what happens when leaves are burned from trees by one fire. What will happen when the needles are burned off every year? His experiments also showed that when needles are not consumed but are heated so they later die and fall off growth of the tree is materially reduced.

The effect of the propaganda favorable to burning is already being felt. Some woods-burners think they have as good a right to do their own controlled burning as the experimenters have, as witness results the past winter in Georgia. Who is to be the judge of controlled burning, and is there such a thing as controlled burning to any extent in actual practice? Is not fire too dangerous to try to use it in controlled burning? No doubt the man in early winter who goes out on a damp night and burns a small area can make some claim to doing controlled burning.

Some of the scientific proponents of controlled burning advocate the practice only for pure stands of longleaf pine. Such areas are few and small. So the controlled burning idea for longleaf pine would amount to little, except it is not understood by most people and stimulates the woodsburners to use the argument for wholesale burning whether of pure longleaf or otherwise, and not all controlled burning advocates insist that pure longleaf pine stands are the only places to burn. Statements are made that burning increases longleaf pine timber reproduction. Perhaps it does in places. Is there any object in having so much reproduction that an expensive thinning operation is necessary? The stockmen claim burning is necessary to speed up spring feed. Areas burned year after year seem to have little left but broom sedge and wire grass. Why not plant carpet grass and so lessen the fire danger and improve grazing? Of course, if an area is overgrazed the fire will not travel so fast, will not be so hot, and young trees and grass will not be so badly injured. When the stockman tells the real truth he will say he burns the land to prevent trees from growing so as to keep more acreage in grass. If he owns the land he burns, it is his privilege to burn it. But very few grazers in the South own the land their cattle run on. Many stockmen say their cattle do better on the unburned areas than on the burned.

If burning one piece of longleaf pine is beneficial, is it not a good thing to burn every area of pure longleaf pine? Have we not made a serious mistake and taken money under false pretenses from our private cooperators? Instead of trying to keep fire out should we not now plan the whole program so as to burn every acre of pure longleaf pine as often as our experimentors may advise?

The suggestion keeps bobbing up here and there, since this controlled fire propaganda has taken root, so that speakers and writers must now qualify all statements on fire. Even Forest Service men of years of service, under the impression that the Forest Service has changed front and now favors woodburning under some conditions, speak of qualifying our public statements about woodburning.

There has been this concession by the Forest Service: That a man who wishes to burn his own land may do so and under some conditions may still receive help under the Clarke-McNary law. How much more concession is to be made? Surely it can not be claimed that the millions of dollars spent to keep fire out of longleaf pine have been wasted and that the state and private land owner cooperatives have been led astray.

Further effects of this controlled burning propaganda are in evidence in other timber growing regions. Even some white pine growers wish to burn their land so as to kill the hardwoods and give the pine a chance. Even if fire does appear beneficial under some conditions, is it not less expensive to keep all fire out, keep the soil light and porous, and if there is too dense a stand to cut out the excess number of trees? In the white pine areas, if necessary, why not remove or lop the hardwoods? If longleaf pine is not reproducing as it should, why not plant young trees in the barren areas? European countries do planting on areas after they have been logged.

Some people will say here is a man or company owning 100,000 acres and can't afford to plant, and that fire is a cheap way to help him get a new forest started. Is it? If he can't afford to handle his land without fire he has too much land. Suppose controlled fires do have some beneficial effects. Doesn't the damage far exceed the good even if the only bad result is to cook the ground, let the water run off the surface, and wash away the soil? Fire has wrought havoc in every timber region in the United States.

Fire destroys little trees, injures big ones, causes soil erosion, bakes the soil, makes streams irregular in their flow, drives out game, burns nests of birds and destroys their food and shelter. It makes land unsightly for tourists. It probably does other things we can't prove.

Let us get our feet back on the ground and discourage all this loose talk favorable to burning the woods. It is well enough to continue to experiment here and there with fire, doing it in the most painstaking and thorough manner under all possible conditions. Careful studies should be made of thousands of fires both controlled and uncontrolled, and records compiled year after year. After keeping records twenty-five years or so valuable data on controlled burning should be available for publication.

YE EDITOR DISCOVERS

The "Wood Handbook", issued by the Forest Products Laboratory, is proving to be one of our "best sellers." The 1500 copies originally issued for sale were exhausted within two weeks and another sale edition of 7500 copies is now being printed. From all indications, these will not stay in stock for long, since the Superintendent of Documents has on hand at the present time 4500 unfilled requests for this publication and the Laboratory and the Washington Office are each receiving daily 10 or 15 requests for copies.

The Handbook, which embodies results of 25 years of research by the Laboratory, treats of all the practical phases of wood use, including the mechanical properties of wood and the facts recently developed in regard to ring placement, fatigue effects, the various factors affecting strength; control of decay and insect damage, classification of woods for painting, timber for outdoor use, preservative treatment, and treating for effective fire resistance. Distinctly modern fields of use are covered in a section on glued, laminated, and composite wood construction. It fulfills a long-felt need for a technical handbook about the properties and behavior of wood.

Copies of the Handbook may be obtained for 25 cents (stamps not accepted) from the Superintendent of Documents, Government Printing Office, Washington, D. C.

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The fire season is officially closed in the West except for Southern California and Nebraska, but it is opening up in the eastern regions, where the danger is reported as immediate or high for this time of year. Losses in area for all regions will not exceed .1 of one percent by very much unless unexpected fires occur during the remaining two months of the current year. In the western regions, barring unforeseen accidents, losses will be materially lower than ever before in the history of the Service. Even in 1906, before the existence of a real fire problem on the National Forests was recognized, 115,000 acres burned over on the then National Forests. Area burned on the western National Forests to October 20 was 89,763. The outstanding peculiarity of the 1935 record is that the bulk of the losses occurred on forests of relatively low fire danger.

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Region 10 reports that "Ketchikan held its first Industrial Fair during the period August 30 to September 2, inclusive. Considerable interest was displayed by the local merchants and canneries in arranging attractive and instructive displays of merchandise and local products. Through the courtesy of the Fair management the Forest Service was allotted a free booth space. Our exhibit consisted of sample blocks of commercial trees with the age of each species shown. Also, finished samples of wood of each species formed a part of the background of the booth. The Sitka spruce block was 6 feet in diameter and was 550 years old. At certain intervals of the annual rings notations were made tying the growth of the tree to appropriate historical happenings. Through the use of airplane and other pictures a good display was made in showing the potential timber and waterpower possibilities of the Tongass Forests."

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Are we headed towards another serious insect infestation? The eastern larch has all but been exterminated by the larch sawfly and associated pests. Now, this summer, comes word that the larch sawfly has been found causing serious damage to the larch in northern Montana and in British Columbia. This insect had not previously been recorded west of the Mississippi.

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Sixty-nine enrollees from the CCC camps in the National Forests, State and private forests, and O. and C. land grant forests in the States of Oregon and Washington were promoted during the past year to positions ranging in salary up to \$155 per month.

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An independent administrative unit for the Green Mountain National Forest was established at Rutland, Vermont, on November 1. With a forest of approximately 160,000 acres requiring full administration at an early date insured, and a potential forest area of nearly half a million acres outlined for future administration, the establishment of Vermont's first independent National Forest was deemed timely. This Forest was formerly administered under the White Mountain National Forest through a District Ranger office. Former Assistant Supervisor Gerald S. Wheeler of the White Mountain Forest has been named the first Supervisor of the Green Mountain Forest.

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Region 2 reports that 36 enrollees in CCC camps in the National Forests of Colorado, South Dakota, and Wyoming were promoted to more responsible positions in the CCC organization during the past year. The positions include those of superintendent, foreman, mechanic, and forest clerk.

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Walter H. Meyer, silviculturist of the Pacific Northwest Forest Experiment Station, has accepted appointment as professor of forest management in the Forest School of the University of Washington. Succeeding D. S. Jeffers, now dean of the Forest School of the University of Idaho, he will give classroom and field instruction to seniors and graduate students, conduct independent research, and manage the school's Pack Demonstration Forest, at La Grande, Washington. His appointment is effective January 1, 1936.

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Walter H. Larrimer, formerly with the Bureau of Entomology and Plant Quarantine has joined the Forest Service as staff assistant in Forest Research. Dr. Larrimer was graduated in forestry at Ohio State College in 1913. He took his master's degree in biology, specializing in ecology, at Purdue in 1921, and his Ph. D. at Ohio State in 1925. For the last 10 years he has been doing administrative work in the Bureau of Entomology and Plant Quarantine. In 1927 and 1928 he directed the \$10,000,000 drive against the corn borer. His special interests are in biology and ecology and in the application of statistical methods to research.

FOREST CONSERVATION UNDER THE VENETIAN REPUBLIC

Forest Conservation is nothing new in Europe. As early as the fifteenth century the Venetian government, like the British government at a later period (see Geogr. Rev., Vol. 18, 1928, pp. 341-342), was vitally interested in preserving timber for the use of its navy. "Like any maritime power Venice was dependent upon access to the terrestrial products from which the ships were made. . . . Only the efficient exploitation of the natural resources of the mainland possessions acquired in those Italian wars for which the policy of the Republic has been so frequently criticized enabled the Venetian Arsenal to supply the war fleets which did battle with the Infidel." These words are quoted from a chapter on the timber supplies in a recent scholarly volume by Dr. F. G. Lane on "Venetian Ships and Shipbuilders of the Renaissance" (The Johns Hopkins Press, Baltimore, 1934)..

Fir, larch and oak were required. Most of the fir and larch timbers were obtained from the Rhaetian and Carnic Alps, whence some of them were floated down the streams. Oak, for which there was an even greater demand, was obtained partly from the neighboring mainland and partly from the peninsula of Istria. "A definite policy designed specifically to conserve and increase the oak groves was first formulated between 1470 and 1492." Subsequently the Arsenal reserved certain woods and trees for its own use. Cadastral surveys of the oaks were made periodically after 1568. An elaborate system of administration and inspection was organized. The regulations were often hard to enforce, partly on account of the depredations of timber thieves and livestock and partly as a result of the disinclination of villagers to cooperate with the officials. "Amidst the record of all these difficulties, however, can be seen the growth of an enlightened conception of forest management, a realization that a forest should not be exploited like a mine but that timber was a crop to be cultivated under a definite plan." As early as the middle of the fifteenth century "deforestation was recognized as a danger to the lagoons since it increased the amount of silt brought down by the rivers. To prevent this filling up of the lagoons, the Council of Ten ordered the replanting of all cut-over woods at the edges of streams or salt water." From Geographical Review, October, 1935.



SERVICE BULLETIN

CONTENT'S CONFIDENTIAL

WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES. IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT ***THE TIME HAS COME FOR A CHANGE. AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY *** TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES. WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER

Robert R. Ransome

VOL. XIX NO. 24

WASHINGTON, D. C.

NOVEMBER, 25, 1935

SHELTERBELT

By H. N. Wheeler, Washington

Forestry has in fact finally come to the Plains States. True, J. Sterling Morton originated Arbor Day in Nebraska in 1872. The Timber Culture Act, the Kincaid Act and the Clarke-McNary Law gave impetus to treeplanting. One of the first forestry schools in the U. S. A. was established at Bottineau, North Dakota, and later at the State University in Lincoln, Nebraska, a forest school was maintained. A Bureau of Plant Industry experiment station was established at Mandan, North Dakota. A national forest and nursery were started and later abandoned in Kansas. The Nebraska National Forest and nursery were established through the influence of Dr. Bessey, Head of the Botany Division of the University of Nebraska.

Through these various agencies, a deal of publicity and personal effort, and the urge of thousands of pioneer settlers, who wanted to be more comfortable and make the prairie region homelike, millions of trees have been planted about homes for protection against summer heat and winter storms, or as woodlots, where firewood, fence posts and lumber may be raised for use on the farm. Other plantings were made for roadside decoration or for hedges used as fences.

But with all this tree planting, forestry in the Plains region had not been recognized as a real national and state-wide activity of major importance until the creation of the U. S. Shelterbelt project of 1934. Now there is a real national forestry set-up, with the U. S. Forest Service in full charge of tree planting activities in these Plains States of North and South Dakota, Nebraska, Kansas, Oklahoma, and Texas. Land is being leased by the government and the whole project is being carried on by a corps of trained foresters with an organization similar in its make-up to that of one of the regular recognized Regions of the Forest Service.

Some dirt foresters and foresters whose whole experience and training have been confined to the heavily timbered regions pooh pooh or look askance at, and even view "with alarm," this recent forestry movement. There are many skeptics, too, among the citizens living in these Plains States where the planting is being done. And yet trees and shrubbery grow naturally in thousands of localities, often in very dry situations, in the Plains area, and trees planted, but given little care, are now growing about farm homes scattered all through the region. If a few trees will grow, more will grow. With right planting and proper care under the direction of the Forest Service, many more will live and serve the

purposes intended. The percentage of survival of trees thus planted and cared for appears to be equal or even greater than for those planted in the great timber producing States.

Claims are not made that this treeplanting will cause more rain to fall or the wind to cease blowing. These plantations will lessen the movement of soil and reduce evaporation of water to the lee of them. They will allow the soil among the trees to take in more water than is the case in the open field, according to the Central States Forest Experiment Station, and also prevent the washing away of soil. They will protect wild animals and birds so essential to man's welfare. Above all they will make living in the Plains region more enjoyable. Is this last benefit not enough in itself to warrant the expense, no matter how great?

Other things are necessary for this region, such as stopping up drainage ditches, building hundreds of reservoirs, allowing the sloughs to come back into grass, reseeding to grass the millions of acres formerly in gramma and buffalo grass. The bad lands, many rough hills and bluffs, and the flood plains of the larger streams, both within and outside the Shelterbelt territory, need the protection that can be given them if included in National, State, and Community Forests or in State Parks.

Very serious consequences are sure to result unless some of these things are done on a very large scale. The water table has been lowered seriously. That must be raised. Surely the severe dust storms of the past few years and the increasing intensity of droughts alternating with heavy rain periods should convince the most skeptical that remedial action is necessary. This new Plains forestry movement, together with soil erosion control, is a start.

To carry out an effective program, the whole people must be back of it. They will not support it unless they know about it and believe in it. This requires education in the mass even more than was necessary in establishing the National Forest policy in 1905 and the succeeding years. The persons to convince the public are those who believe in the movement and have the facts to support their statements. Lantern slides, moving pictures, news reels, feature stories and articles both short and long, in newspapers and magazines, are necessary. Is this too big a job for the Forest Service? I do not think so, but it is an important undertaking and will put us to the test. Surely the results will warrant the cost and effort.

SUSTAINED YIELD AND GOVERNMENT LOANS

By Perkins Coville, Washington

In the Service Bulletin of September 30, 1935, certain information was given on the Reconstruction Finance Corporation's loan of \$3,850,000 to the Crossett Lumber Company of Crossett, Arkansas, for construction of a pulp and paper mill, and on the collateral features. The timber resource not only forms an important part of this collateral but it is most important to the continued operation of the company and the continued welfare of its dependents.

It is of interest to note, therefore, that, in the granting of the loan, sustained yield operation of the property, with U. S. Forest Service participation in the technical features thereof, was stipulated. This is probably the first case of its kind.

In the proposed federal bill to provide forest credits (Fletcher bill) sustained yield is made basic to the granting of loans. It should be satisfying to foresters and conservationists generally to find this idea applied by the RFC in the granting of a loan on operating timber properties.

NAMING THE NATIONAL FORESTS

By John D. Guthrie, Washington
(Cont'd. from November 11 issue)

We need a definite plan and policy in this matter of naming our National Forests, which after all is an important and far-reaching action. It shouldn't be left to whim or fancy, snap-decisions or accident, but should be carefully considered by a permanent committee.

Both the War and Navy Departments have a definite system which, incidentally, dates back to George Washington's day. Whether their plan is right or wrong, they have a plan and they follow it. For example, in the Navy, battleships are named for States, cruisers for cities, aircraft carriers for famous battles or ships of the early Navy, destroyers for Naval heroes, and submarines for fish. (One might think we had adopted animal and tree names for our Ranger Stations--Bear, Fox, Panther, Antelope, Coyote, and Aspen, Spruce, Oak, Cottonwood, Pine, etc.--but No,--local creeks by the dozens just happened to be so named!)

The Army names its forts or posts for former well-known Army officers: Forts Bliss, Meade, McClellan, Lawton, Logan, Rosecrans, Bragg, Funston, Sam Houston, Humphries, McPherson, Sheridan, Russell, etc. Their airfields also bear names of former officers: Bolling, Brooks, Kelly, Pearson, Selfridge, etc. They have no inferiority complex about honoring their illustrious dead; this is a part of the tradition of the service.

There are no National Forests named for Hough, the first Federal Forestry Officer, nor Fernow, during whose chiefship the forest reserves were first started. There is no Harrison National Forest for Benjamin Harrison who set aside the first forest reserve, nor for Secretaries of Agriculture Sterling Morton, who started Arbor Day, nor James Wilson, friend of forestry and Secretary for 16 years, nor for Carl Schurz, Secretary of the Interior 1877-81, "influential advocate of the scientific handling of forests in America and the first to propose and urge the establishment of federal forest reservations." True, we have the George Washington, Lincoln (for Lincoln County, N. M.), Cleveland and Roosevelt, and at one time we had the Jefferson and Madison National Forests. We have personal names, such as Coronado, Lewis and Clark, Pike, Fremont, Carson, Sitgreaves, Powell, Whitman, Sam Houston, Gallatin, Custer, Crook, Colville, Mt. Hood and Mt. Baker (the last three names are of Englishmen--Andrew Colville, a Hudson Bay officer in London, and Hood and Baker, British Naval officers).

As a start on a somewhat definite plan or system to be considered in naming National and State Forests, the following guide is offered for suggestion and criticism:

(1)	(2)	(3)	(4)
National Forests	Ranger Stations	Federal Forest <u>Nurseries</u>	State Forests
Discoverers.	Secretaries of	Chief Foresters.	Chief Foresters.
Explorers.	Agriculture.	Distinguished	State Foresters.
Presidents.	Chief Foresters.	and Early	Governors.
Statesmen.		Foresters.	Early Foresters.

NOTES ON ABOVE:

1. Include such as Columbus, Coronado, Balboa, DeSoto, DeLeon, Cabot, LaSalle, Marquette, Lewis and Clark, Bonneville, Fremont, Pike, George Washington, Jefferson, Lincoln, Harrison, Cleveland, Roosevelt (TR), Carl Schurz, Sterling Morton, James Wilson, Senators Newland and Weeks, etc.

2. Rush (first Secretary of Agriculture), Meredith, Henry A. Wallace, Hough, Fernow, Stuart, etc.

3. Overton Price, Roth, Olmsted, Sudworth, Rothrock, Stuart, Fisher, Toumey, etc.

4. Eggleston, Stuart, Rothrock, Bessey, Chittenden, Miller (Idaho), Fox (New York), Pettis (New York), Joy (Washington), Pardee (California), Lukens (California), etc.

SUGGESTED RULES:

Avoid for National Forests too long or unpronounceable names, as well as local names of creeks, rivers, mountains, towns or counties as these are generally already sufficiently perpetuated; sometimes a topographic feature is so dominant that its use is almost dictated, such as Mt. Hood, Mt. Baker. Select names of dignity, never nicknames or names of entirely local significance.

A LETTER TO THE BULLETIN

By Arthur C. Ringland, Washington

In London it is said that if a lion should suddenly pop out of the Underground and prance around Piccadilly Square, no Englishman would pay the slightest attention to him. If, however, this should happen more than once, someone would immediately write a letter of protest to The Times.

I am compelled to write a letter of protest to the Service Bulletin, for not once, but several times, the Forest Service has inflicted upon the innocent public the most barbarous and vulgar names for our National Forests. Consider "Angeles National Forest" --- neither good Spanish nor English and now (God save the mark!) we have the "Hoosier National Forest" and the "Hawkeye National Forest"!

A National Forest is a national institution supposedly cloaked with some dignity. Why this competition with the Hoosier Steam Laundry and the Hawkeye Meat Market? California, Indiana, and Iowa denote areas that have played a moving part in the development of a pioneer country. Does history mean nothing?

Mr. Guthrie has rendered a distinct service in his Bulletin article on National Forest names.

A BIT OF HISTORY

By Paul G. Redington, Shoshone

I had an interesting inquiry recently from J. Neilson Barry, Secretary of the Historical Research Council, Portland, Oregon. He was much interested in the route that John Colter took in his famous winter journey in 1807-1808 in and around the vicinity of Yellowstone Park and areas adjoining. Barry wanted to know where the site of the so-called Tar and Sulphur spring which was located by Colter when he came down the Clarks Fork of the Yellowstone. I looked up the literature from the Library here and I quote as follows from pages 62 and 63 of the "History of Wyoming" by C. C. Countant, Laramie, Wyoming, Chaplin-Spafford & Mathison, Printers, 1899:

"The fur expedition went up to the mouth of the Big Horn where Lisa erected a fort. A small party was organized and with Colter at its head was sent out to trap and trade among the Crows. In this expedition he was evidently successful. His party trapped in all of the tributaries of the Big Horn including Stinking Water, where he discovered a boiling spring

with a strong odor of sulphur and tar which gives rise to the name Stinking Water. Colter is in no wise responsible for the name, however, as this is of Indian origin being thus interpreted by explorers. They trapped on the Greybull Shell Creek, No Wood Kirby Creek, Owl Creek and all the forks of the Popo Agie. The party then went up the Big Horn river to its source and crossed over one of the low passes to the Pacific slope. Captain H. M. Chittenden in his work on the Yellowstone National Park, follows closely in his meanderings on the west side of the Wind River Range. He says, 'From the summit of the mountains he descended to the westward; crossed Snake River and Teton Pass to Pierre's Hole and then turned north recrossing the Teton Range by the Indian trail in the valley of what is now Conant Creek, just north of Jackson Lake. Thence he continued his course until he reached Yellowstone Lake at some point along its southwestern shore. He passed around to the North-ernmost point of the Thumb and then resumed his northerly course over the hills, arriving at the Yellowstone River in the Valley of Alum Creek. He followed the left bank of the river to the ford just above Tower Falls where the great Bannock trail used to cross and then followed this trail to its junction with his outward route on Clarks Ford. From this point he recrossed the Stinking Water, possibly in order to revisit the strange phenomena there but more probably to explore new trapping territory on his way back. He descended the Stinking Water until he turned north and shortly arrived at his starting point.'

I answered Mr. Barry, giving him details and a map of the Shoshone. It is almost positive that the boiling springs that were seen by Colter are the waters that are now known as the DeMaris Springs, located on the Shoshone River below the Cody Reservoir.

THE ISSUE

By B. F. Heintzleman, Washington

The Forest Service is continuously stressing the need for having the timber industry indicate its interest in the social aspects of the utilization and renewal of our forest resources. The industry must enjoy the confidence of the public if it is to be given the public help it desires in the way of revision of taxation methods, extension of financial credits, cooperation in forest protection and the right of some self-regulation in industrial practices. There is need for a declared recognition by the leaders and organizations of the industry that among the primary objectives is the perpetuation of the public values in the private forest resources of the country.

The following, from an editorial in the Southern Lumberman, issue of November 1, indicates that this journal sees the issues involved and recognizes how vital it is for the industry in its own interest to adopt and proclaim a program which gives a high place to the preservation of social values.

After stating that the organized lumber industry has notified the government that no resumption of the Lumber Code is wanted and that the NRA is studying the lumber industry as one which is a fit subject for federal control, the editorial concludes:

"Meanwhile, one of the best things the lumbermen can do to avoid the danger of federal interference is to conduct their affairs in such a way as to prevent just criticism. There should be no exploitation of labor. There should be no unrestrained cutting of timber. There should be an adherence to fair trade practices.

"If they will keep their own house in order along these lines they will remove the excuse for regulation. Most lumbermen, we believe, honestly want to operate their affairs along such liberal lines. They don't object to paying their labor remunerative wages and otherwise conducting their affairs in a far-sighted manner. But they do object to having impracticable rules and regulations fastened onto them by the government.

"In his great oration on the subject of conciliation with America, Edmund Burke said: 'It is not what a lawyer tells me I can do, but what humanity, conscience and common justice tell me I ought to do.' If the lumbermen will voluntarily guide their affairs along the lines of humanity, conscience and justice, they will be building a first line of defense against the embattled lawyers at Washington. If, however, they blindly forget the lessons of the past; if they sink again into the errors which have brought criticism upon them; then they may well expect the federal government to use such a course of conduct as an excuse for a resumption of that meddling and regimentation which is so feelingly deplored by such level-headed officials as Secretary Roper and by conservative business men in general.'

CUPID GOES INCENDIARY

By Emma H. Morton, - R.6

Last summer State forest officers were amazed by the number of incendiary forest fires that occurred around the Row River country in Oregon, only on Friday nights and Saturdays. Now, M. J. Skinner, district warden of eastern Lane County, in the roll of Sherlock Holmes, believes he has solved the mystery.

There is a CCC camp in the vicinity and the stalwart lads have become popular with the village belles in neighboring towns, much to the disgust and chagrin of the local swains.

Warden (Sherlock Holmes) Skinner says he has it figured that the disgruntled, jealous town boys sneaked out to the woods on Fridays and deliberately set a number of fires. The result is that the CCC boys have to spend Saturdays and Sundays fighting the flames and so are prevented from coming into town week-ends to pay court to the girls. The man who said "there's nothing new under the sun" passed on before the advent of the CCC.

YE EDITOR DISCOVERS

Relatively few realize that the passing of the sawmill towns in the Lake States now has its counterpart in the South and West. We point with horror to the past exodus of people and wealth from Michigan, yet fail to recognize how widely the process extends in our present day.

The "Four-L-Lumber News" has published a list of 31 plants which ceased operation in the 1920-1935 period. These plants, some of them subsidiaries of existing companies, provided work for a total of 6,725 people, equivalent to a population of about 35,000. The loss of these wage earners and the loss of the returns of their labor to the region were wholly unnecessary. Selective logging, adequate fire control, care of young growth, or, in other words, sustained yield, would have first prevented overproduction, second provided for safeguarding natural resources, and third provided for continuous employment and a prosperous region.

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The Federal Trade Commission has ordered Rayson Service Bureau, of Denver, Colorado, and others, operating a correspondence school teaching United States Civil Service subjects, to cease and desist from including in follow-up or other advertising matter concerning a forestry course any reference to the National Forests, the Federal Forest Service, or positions in this service, unless and until either the United States Civil Service Commission shall resume announcement of examinations for the position of ranger in this service, or

the respondents shall declare in follow-up literature that the course is neither adapted nor designed to aid students to obtain positions as ranger.

The order directs the respondents to discontinue offering any course of instruction without making known in their follow-up literature the educational, physical, personal, residence, experience and other requirements or restrictions imposed upon applicants for positions for which the Rayson courses are offered as preparation.

The Commission's order also prohibits continuance of the respondents' "guaranty" offer, without making clear that the purchaser at a combination rate is not entitled to a refund unless he has failed in each examination; advertisement that government positions are available generally, or that examinations are frequent or soon to be held, unless this is true; advertisements implying that respondents are seeking employees to fill government positions; and using advertising space entitled "help wanted" to advertise their course.

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Work preparatory to completion of the South Building of the Department of Agriculture was begun about ten days ago. The old Bureau of Chemistry and Soils building, located in the court between wings one and four, is rapidly being demolished and steam shovels are busily excavating for the foundations of the two bridges which are to connect the East and West Wings of the Administration Building with the South Building. Maybe some day the Forest Service will have a home of its own.

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One of the remarkable things which have come out of recent investigations by the Appalachian Forest Experiment Station is the effect of denudation upon climate. The studies were made at Ducktown, Tennessee, in the center of a large area which had been denuded by smelter fumes. As a result of these fumes, all vegetation has been killed, only scattered bits of grass here and there exist, and erosion is widespread. There are no records available to show what the conditions were prior to smelter activities, but rainfall records taken in the last year show that in the middle of the denuded area the rainfall is about two inches less than it is in the forest land nearby. The natives explain the difference as being due to a greater heat on the denuded area which is responsible for increased evaporation and high temperatures. Evaporation in the middle of this denuded area is about 5 times that inside the forest area six or eight miles away. Whether this one year's observation is merely a freak or whether it is actually indicative of a major climatic change is, of course, a matter of debate. With longer records we should be able to determine how far the lack of a vegetative cover is responsible for this change in climate. Another of the interesting facts on this area is that after every rain silt basins constructed for studying erosion on this area have to be bailed out, while similar basins in the nearby forest area show only a slight deposit of fine silt and vegetative mold after a year's exposure.

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Of 1600 hardwood trees originating from sprouts in the Appalachian Mountains, twenty-three percent were infected with decay. In eighty-nine percent of the total number of the decayed trees, the presence of decay could be definitely traced back to the old stump. In the others, a fire scar was the chief cause of the decay.

Of the black oak, thirty-eight percent were infected, eighteen percent of the white oak, twenty-five percent of the scarlet oak, nine percent of the chestnut oak, and twenty-three percent of the red oak. Such results indicate the need for care in stand improvement work.

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Our most recent best seller, the "Wood Handbook", continues to increase in popularity. Requests for this bulletin are being received in such quantities that the Super-

intendent of Documents has decided to increase the second sale edition from 7,500 to 10,000 copies.

Three members of the group of foresters who for the past several months have been studying forestry conditions in Europe under sponsorship of the Carl Schurz Memorial Foundation have recently returned to this country. They are L. F. Kneipp and E. E. Carter of the Washington Office, C. L. Forsling, Director of the Appalachian Forest Experiment Station, and Aldo Leopold of the University of Wisconsin. Another member of the group, H. L. Shirley, of the Lake States Forest Experiment Station, expects to return the latter part of this month. W. N. Sparhawk of the Washington Office, will not return until sometime early next year.

The many friends of Raphael Zon, Director of the Lake States Forest Experiment Station, will be glad to know that he has left the hospital and is on the way to recovery. It is expected, however, that Mr. Zon will need considerable time in which to regain his strength, since he has recently undergone two serious operations.

A PASSING TRADITION

What has happened to the West, which once valued its unlocked doors as its greatest possession?

There was a time, not so far in the past, when one seeking shelter needed only to open the door of the first house or cabin he found. He needed not to feel abashed because no one was at home - the visitor merely prepared necessary food and, if he left before his unknown host returned, cleaned up the place and replenished fuel. In other words, the premises were left in the same condition in which they were found.

It is not unusual for a forest ranger, in the course of travel in his district, to come upon an isolated guard or lookout station which has been broken into. Such places are not manned in winter. Investigation has revealed numerous instances where the unlawful occupants have used furniture for firewood and even have chopped up the floors. Dishes usually are left dirty and sometimes they are destroyed.

Such wanton destruction and violation of Western tradition are laid at the doors of those persons, particularly among the hunters, who do their roughing in automobiles.

As the individual has been forced in recent years to barricade his shelters when he is away, so has the Forest Service been compelled to deny access to its outlying stations to the passers-by, all because of a few who are not cognizant of the worth of the old frontier tradition whereby the latchstring was always out to one needing shelter so long as he washed his dishes, replenished the woodpile, and left things as he found them. - From R-1 News Release.

CLAUDE M. BALLARD

In the sudden passing away of Claude Ballard on November 20 the Forest Service sustained a loss that is very real and personal to members of the Washington Office, and to a very large circle of friends in the field. A matchless disposition, everybody's friend - he shared the griefs of others and cloaked his own with a cheerful smile. - George A. Duthie.

MERRY XMAS

HAPPY NEW YEAR



SERVICE BULLETIN

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GREETINGS

The year now rapidly passing has been a strenuous but a most interesting and stimulating one. It has, too, been one of real accomplishment by - and within - the Forest Service.

There is no need for me to recite all the things that have happened or the many jobs - including those extra-curricula ones - that have been done. You know them even better than I do. Certainly they could not have been accomplished, nor could they have been so well accomplished, without that cooperative "will to serve" that is so characteristic of the entire Forest Service organization.

Of all the things that have come to us, in 1935, the one that pleases me most is the recognition of that spirit by our own Secretary, Henry Agard Wallace, in person. I shall always remember - and I am sure you will - that statement of his which, issued after his return to Washington from a visit to Western National Forests, reads in part as follows:

"The outstanding impression in my mind was the universally fine esprit de corps. Everywhere the men think first, last, and all the time about the public interest as contrasted with the regional or private interest. Again and again I asked how it happened that so many men had become filled with the necessary courage and intelligence to act for the long-time, general interest instead of the short-time local and political interest."

I am proud of that tribute. It was a straightforward expression of a conviction gained through personal observations and experiences by the Secretary himself. It is a real tribute; one which, I am perfectly sure, will be as deserved during the years to come as it was on the day that Secretary Wallace wrote it.

And that, in itself, will help make many a Merry Christmas and Happy New Year for all of us.

F. A. SILCOX

CHRISTMAS THOUGHTS AND GREETINGS

By E. A. Sherman

Again the Christmas festival finds the Forest Service a united happy family, as it has always found it since the earliest days when its spirit of peace on earth good will to men was so beautifully illustrated by Harry Tower's devotion to its little children.

Again, although no longer all housed in the old Atlantic Building, we will gather as one family around one great Christmas tree as a unit in friendliness of spirit, continuity of ideals, and unselfishness of purpose.

Again we have gone through the Thanksgiving season, grateful that our labors not only gain our livelihood but contribute as well largely to the well-being of our fellow men and the security of our nation and race.

Again we look back upon a year crowded with labor, multiplying responsibilities, and kaleidoscopic changes, in which each "unforgiving minute" has left no time for either exultation or regret. The first is history, unchangeable, -- unalterable either by thought, wish, or word.

Again we look forward to a coming year of greater responsibilities, heavier labors, possibly greater opportunities, and, let us hope, greater accomplishments. As an aid to the latter and to greater service to the nation we have back of us the fruits of years of toil and study, ---- the roads, trails, bridges, telephone lines, fences, firebreaks, lookout towers, pastures, camp grounds, water developments, and the thousand and one physical improvements essential to the protection, improvement, utilization, and enjoyment of public forests. We have also, in flourishing plantations, millions of young trees planted by our hands, using sunlight, soil, and rainfall, promises of future valuable and useful forests replacing acres of waste and desolation. In the "Shelterbelt" alone, thanks to the vision of our leadership and faith in our judgment and discretion, we start the year with 40 million more trees than last year.

Again we face the year with a song in our hearts because we carry the banner of the conservation of our nation's material resources. From an undermanned office in Washington attempting, with an untrained and inadequate field force, to protect from complete destruction the remnants of our public domain which had been burned, ravaged, and overgrazed at will by armies engaged in ruthless exploitation of forest and range, we have grown to the full stature of one of the most important and useful bureaus of the government. Waste has been stopped. Respect has displaced hatred. Cooperation is the successor of opposition. Understanding has brought appreciation. Conservation, a word almost foreign to our language when some of us entered the Service, is now not only a familiar household word, but on a steadily growing national estate is a living, applied fact.

Good reasons in abundance, we have, indeed, to exult in heart and rejoice at obstacles overcome and duty well done. Exult! Yes, but chastened, as all should be, in the zenith hour of victory. Therefore, "lest we forget", let us each recall that the Service has reached its present proud position not by accident or chance, not by magic or prestidigitation, not by any devious, underground or questionable route or dealings; but by serving honestly and unflinchingly the best interests of all the people of the United States; by adhering to a high standard of ethics in all our dealings, by exacting from all men, including ourselves, obedience to law; by requiring of all men obedience to regulations authorized by law, and by obeying them ourselves. We have come thus far by a straight and narrow path. It has never been the path of least resistance; that path always leads downward. It has always been, and I trust always will be, the upward path. No matter how rough and steep it may be, we cannot leave it without parting with our ideals and abandoning our objectives.

PIONEERS

By L. F. Kneipp

Commonly we think of the pioneer period of American history as of the past. In our minds the term inspires visions of little clearings when from the forests by extreme effort and hardship, of crude log cabins, of covered wagons crawling slowly across endless plains or braving the hazards of swollen streams or apparently impassable mountain ranges, of fights with Indians made desperate by the threatened loss of their homeland. To the pioneer we pay all homage and respect for the qualities of courage and persistence which won an empire for our nation.

But actually, that era in American history is only a single pioneer period. There are today unconquered frontiers in the United States as well as in other countries in which pioneers struggle to create new empires and pit their strength against obstacles as difficult as those of early days, face hazards and worries as real, and frequently as great, as those faced by their forefathers. The only difference is that instead of contending only with physical forces these new pioneers must combat adverse social and economic forces; instead of winning lands and natural resources they are struggling to establish ways of life less harsh and more inspiring and equitable than those which have evolved through unplanned and selfish exploitation. Inspired by concepts of social justice; by visions of a land and life beautiful and satisfying of all human aspirations, they cross desolate plains of human misunderstanding, brave swollen torrents of human selfishness, and toil to surmount mountain ranges of jealousy and greed, so that those who follow will find fair lands in which to settle in security and peace.

And out on the forefront of this pioneer wave are the men and women of the Forest Service. Like all pioneers they face more shots than salutes; more chills than cheers. But some day the American people will be grateful that there was such a loyal band to lead the way.

CCC AT CHRISTMAS TIME

By Fred Morrell

The strongest appeal to most of us in Forest Service work has always been the close relation between the physical things with which we deal and the social interests of the people in the communities in which we live and work. The growth and protection of trees does not of course find its ultimate in their growing and protection, but in their values for enjoyment in recreation; through education; through the cutting when mature in such ways as to maintain homes in stabilized communities. The allotment of grazing privileges and the use of publicly-owned ranges in such ways as to protect and perpetuate the growing crop and to save the soils are justified because they assure permanent maintenance of country homes and family units dependent upon such resources.

With the initiation of the Civilian Conservation Corps the Forest Service was privileged to play a major part in another kind of social endeavor, - in many ways more direct, more vital and certainly more acute than the projects in which we had been previously interested. The Civilian Conservation Corps has furnished a million man-years of employment, principally to young men who under the existing social economic order had no opportunity to work and no opportunity therefore to support themselves or to assist in supporting their families, no opportunity to live ordered lives with a dependable source of food, clothing and sanitary facilities, that are essential to a reasonable degree of comfort or even a certainty of existence.

To take our share of these hundreds of thousands of untrained boys into the out-of-doors to teach them to work, to teach them respect for order and authority, and, above all, self-respect, was perhaps the outstanding opportunity that has ever come to the Forest Service. It has resulted in a very great expansion of the Forest Service family, as though the previously well integrated family unit took under its roof the orphans next door. The hundreds of thousands of boys whose families will through their work in the camps have a better Christmas should be the occasion for our greatest satisfaction over the year's work now drawing to a close.

"THE BEST TREE IN THE WORLD"

By D. Priscilla Edgerton

Years ago this title was given to the Christmas Tree, by a forester. The name fits, and it is high praise, attributable to a sacred association. Since there are, however, countless venerated individuals of the tree world, in all parts of our land and other lands, that are the better for human associations, will it not interest us to think a little of these, in connection with seasonal mention of this occasional tree of varying species?

Trees, by their very nature, are landmarks and memorials. Also, trees, having more than the allotted life-span of man, carry their associations through generations of human families. Thus, they often figure in biography and in history. Trees are loved by all kinds of people and therefore they are immortalized by the poet, the artist, the church, and the school. The everyday surroundings in which most people spend their lives fit into a background of trees as easily as do the details in a picture of striking scenery.

An almost invariable element of greatness is a love of nature, and so it is not surprising to find, in selecting illustrations from the here-at-home, that most of our presidents have been lovers of trees. Forty-six stately trees, planted by Washington or under his personal direction, are still standing at Mount Vernon, Virginia. John Quincy Adams was known as "the tree-planting Mr. Adams." There is a "Presidents' Grove" at the home of Rutherford B. Hayes, many of the trees having been christened by presidents. There are magnolias planted on the White House Grounds, brought from "The Hermitage" and planted by President Jackson, in honor of his wife Rachel. "Something green - in her memory," he said. Lincoln, as a boy, literally went to school beneath the trees. There are many General Grant trees and Theodore Roosevelt is perhaps best known as "the great conservationist." The Roosevelt of today has his own high regard for trees, it is well known. But the story of tree lovers among our presidents is not half told.

There are or have been many trees associated with famous events, such as the Penn Treaty Elm, the Connecticut Charter Oak, the Washington Cambridge Elm, the California Junipero Oak, the Indiana Constitutional Elm, the Texas Charter Oak, the Kentucky Constitutional Elm, and there are treaty trees in every part of the country. Trees by the score are associated with literary masters and shrines, with religious institutions, and with educational happenings. Not a few trees own themselves by deed of gift, or by special protection accorded them.

Then there are heroic individuals of great size and age, in many of our States, some of which, as the sequoias of California, antedate the foundation of Christian festivals.

The choice of a tree or its foliage to feature an annual ritual is an ancient custom. We have reason to believe that the early Egyptians decked their homes at the winter solstice with date palms, as a symbol of life triumphant over death. The Romans, celebrating their feast of Saturn in the midwinter, used the conifer as a sign of joy. That beautiful story

by Henry Van Dyke, "The First Christmas Tree," tells of the conversion of Druidic tree worshippers to the joy of the Christian symbolism.

Heathen worship of objects of nature has thus led to one of our best-loved customs, but is it not likely that the beauty of trees, especially of evergreens in winter, and their nearness to human habitations, have been the means of keeping alive the association with festivals of the home and heart? However, at this season at least, we will agree that whatever the origins and whatever the rivalries, because of the tenderest of human associations, the Christmas tree is the best tree in the world.

CHRISTMAS PRESENTS AND THE CCC

By John D. Guthrie

The Civilian Conservation Corps was a Christmas Present to American forestry! But quite outside of the material benefits of all the truck trails, firebreaks, and phone lines built during the past 32 months by the CCC, the enterprise has been of far greater significance to America. It has been literally the salvation of hundreds of thousands, yes, even of over a million young men.

There has been some levity indulged in concerning the present administration and Santa Claus, but the Civilian Conservation Corps has been a two-year long Christmas gift to over a million youths of the United States. Captious critics, impractical communists and sobby sentimentalists have written much about youth being forced to lead unnatural lives, militarism in the camps, and the dangers of regimentation. Those who have seen these CCC boys in the camps, on the job, at work and at play, know that such talk is mere twaddle.

Their camp and work experiences have rubbed off rough and selfish knobs, have taught them social values, and above all have given them the chance of leading normal, active, healthy outdoor lives. "We Can Take It" is the CCC slogan and motto. There's a real spirit of restored self-reliance and regained faith in those words that rings true. There's a note of the daring of youth in them, of the pioneer, as Frank E. Hill in his little book, "The School in the Woods", writing of these little CCC villages and the life and work in them says:

"It is very much an American life. In a way it goes back a century and absorbs something of the pioneering flavor and the pioneer spirit; the closeness to the American soil, the look and use of its granite, its oaks and pines and hickories."

The CCC is now at the end of its 2½ years of existence. And the third Christmas comes to the camps, now some 2400 of them, scattered over these United States and in our territories. Many thousands of these boys will spend the holidays with their families, in homes brightened by the monthly help the CCC has made possible. There is this satisfaction to all of us who have been or are connected with the Corps and that is that it has absolutely and abundantly justified itself, -- in the worthwhile work it has left in the forests, parks and fields of this country. This country can never go back to what it was before the CCC came. The boys themselves who have served in the CCC will never be the same boys; they have caught something of the breadth and width and meaning of America that will never leave them.

It is heartening to know that over 250,000 of them have gone out from the camps to take better jobs since April, 1933. They are better men, better citizens than they ever could have been without it; they now have a stake in American conservation.

Many have reenrolled and stayed with the job and by their steady and faithful work have received recognition for good work. In the hundreds of camps under the jurisdiction

of the U. S. Forest Service alone a total of over 800 boys have been promoted to better jobs in the CCC itself, as sub-foremen, project superintendents, mechanics and clerks. They have thus become more than ever a part of the conservation organization.

In September, the President made it clear that he wanted a permanent CCC, of some 300,000 men. And for those boys who have already made good and for others who may yet show their worth, there is an announcement of a Civil Service examination to be held in each camp, which will be open only to enrollees. This is indeed another Christmas present to the CCC!

ADVICE TO WRITERS

By C. E. Randall

Since the Assistant Editress insists that I could, if I tried, write an inspirational article for the Service Bulletin, I might try giving a few inspirational words on how to write. She says I am supposed to be a writer (ref. Civil Service job description), so it ought to be easy. Every Forest officer has to write, on occasion. In the hope that it may be helpful to those who find writing a hard job, I shall therefore tell how I became a writer.

Some years ago, I decided that if I were to be a future President, or Senator, or something, I should learn public speaking. Accordingly I signed up for a series of lessons in elocution. The first lesson consisted of deep breathing exercises and of emitting many long ah's and oh's to improve tonal quality. For the second lesson the "professor" gave me a poem by Horatio Alger, probably penned by him during a mental lapse induced by writing so many books about boys who made good. I was to recite the poem, with gestures. The first verse, together with the stage directions I was to carry out, follows:

THE WIND IS HIGH (raise hand high above head); THE WINDOW SHAKES (bring hand down with shaking motion) --

WITH SUDDEN START (suddenly jump forward three feet) THE MISER WAKES (blink eyes).
ACROSS THE SILENT ROOM HE STALKS (start walking across stage)
LOOKS BACK (look back), AND TREMBLES (shake yourself violently) AS HE WALKS (resume walking) --

THEN OPENS HIS CHEST (thump chest) WITH TREASURE STORED (rub hands)
AND STANDS IN RAPTURE O'ER HIS HOARD (take one step backward, raise hands to level of shoulders, assume rapturous expression).

There was more of it, but that was enough to convince me that I should never be a public speaker. Since then I have always attempted to express myself in writing. And that is how I became a writer.

The real lesson to be learned from that violent exercise in elocution was of course that one speaks best when he speaks naturally. Likewise, the only advice I can give on how to write is: write naturally, -- and I'm afraid this is not a very inspirational contribution.

THE FOREST CONTRIBUTION TO CHRISTMAS CHEER

By Perkins Coville

The forest has for centuries contributed to the atmosphere and decorations at Christmas time.

The hauling-in of the yule-log was once a distinct ceremony on landed estates. This log was hauled in by the young of the household and it was usually big, for custom decreed that the youngsters did not have to work as long as this log continued to burn. Don't we miss something now that many of us live in homes and apartments without even a fireplace? The hearth was once the center of American home life.

We retain, however, the custom of using Christmas trees, mistletoe, and wreaths of hemlock, yew, and holly.

The significant use of holly is said to go back to the Roman festival of Saturnalia; the early Christians adopted holly as a symbol of their festival.

The original use of Christmas trees probably was contemporary with the origin of the Dutch legends of Santa Klaus and St. Nicholas.

To mistletoe on the oak the Druids and Celts are said to have attributed magical powers. Perhaps some of the significance of this is represented by the latter-day Christmas custom of kissing under the mistletoe. We are getting prosaic indeed if we let such a custom die out.

In addition to decorations, we have from the forest the various edible nuts--of hickories, hazel, chestnut, and pinon. And how many have cooked down maple syrup or sugar, stirred it, and spread it in fancy shapes on pans of snow to harden into a kind of maple taffy. If you have never done it, try it. At least let the children have one fling at it.

As we enjoy our Christmas, we might stop a moment to consider the extent to which, by our purchase of materials from the forest, we made possible, through financial returns, a happier Christmas in some modest home in the hinterland.

A SCATTERED BAND
CHRISTMAS THOUGHTS - 1935

By Julian E. Rothery

"Everywhere - everywhere - Christmas to-night!
Christmas in lands of the fir tree and pine,
Christmas in lands of the palm tree and vine;
Christmas where snow peaks stand solemn and white,
Christmas where cornfields lie sunny and bright -
Everywhere - everywhere - Christmas to-night."

A grand old hymn that catches the joy of the Yuletide season, and the stretch and the swing of this great country. Yes, everywhere - Christmas to-night - and everywhere it comes to the men and women of the Forest Service, scattered over the length and breadth of a continent.

Way up in the North Woods a survey camp is pitched. In the intense frost the trees snap and crack, the snow creaks beneath the snowshoe or sled runner, but in the tents there is warmth and good cheer. All is well - it is Christmas.

Or perhaps under the genial skies of the South, in the land of the holly and mistletoe, a group has ceased its attempt to solve some baffling mystery of nature, and is celebrating this - the greatest of all miracles.

A Forest Service boat rides quietly at anchor in a lonely Alaskan fiord. From the water's edge a mountain, decked with Christmas trees, rises to a towering snowcap - solemn and white - but in the cabin all is gay. Yes, it is Christmas.

Far away from Washington's gleam the great yellow pines march out of the mountains and disappear in the desert. A lone ranger is riding and singing - for it is Christmas.

And in cities which were frontier camps within the memory of men now living and in towns which have rung in a welcome to three hundred Christmases, men and women of the Forest Service will foregather on this day of good will. Truly a scattered band.

Scattered, yes - but in other respects, a love of the open, the fascination of work against this mighty background, a common loyalty and a certain philosophy of life have bound these farflung foresters into one of the most united and cohesive bodies under the shining sun!

BRINGING HOME THE CHRISTMAS TREE

By George A. Duthie

Bringing home the Christmas tree is one of the early American traditions that the conditions of our modern existence plus the emotional appeal of the sob-sister tree savers have not been able to destroy and God forbid that they ever shall do so. When the tree is all ablaze with its lights and gleaming ornaments the children's eyes glisten as they look at the packages in their tissue and ribbon -- Mother looks at the decorations that she has so carefully draped and breathes, "Isn't it beautiful?", and Father casts a critical eye at the "plumb" and the orientation of the tree to show up the thickest branches and replies, "Yep,- that's a better shaped tree than the one I got last year".

Bringing home the tree may have included all the zest of wading knee-deep through snow to size-up the candidates -- now this one, now that one, then hither and yon, finding it hard to decide which tree was the best size and shape. The chances are that it consisted of pawing over the huckster's load with the same indecision and finally taking the selected one to the basement where Dad proudly exercised his ingenuity in converting the old apple box into a wonderful base that holds the tree upright and plumb just like it grew in its natural habitat.

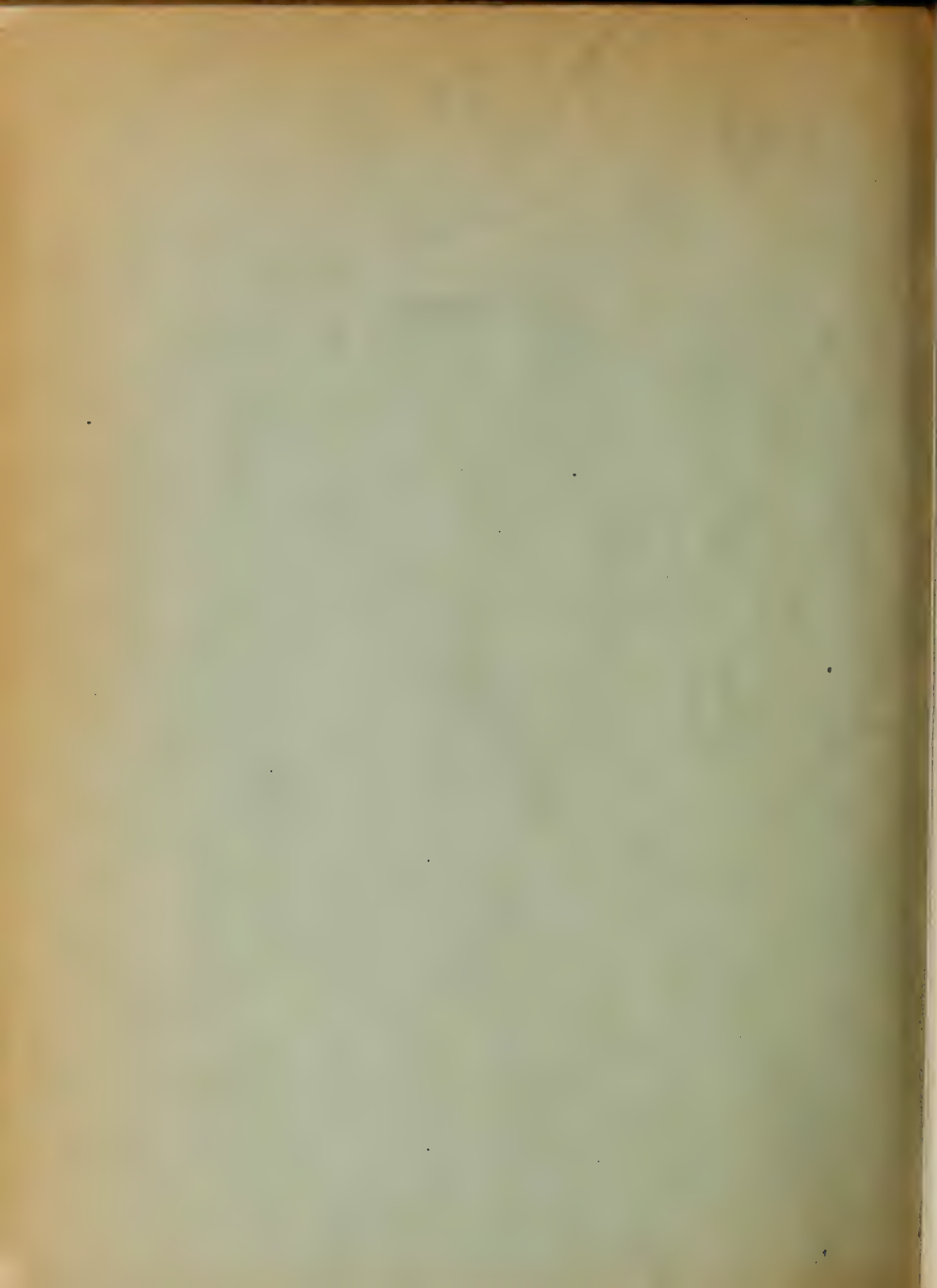
Whether it is a Douglas fir of the far West, englemann or blue spruce of the Rockies, balsam of the Lake States, white spruce in Maine, red spruce in New York, hemlock in Pennsylvania, juniper in Maryland or scrub pine in Virginia, the Christmas tree brings into the home the wholesome tang of God's country -- the out-of-doors. Its fragrance pervades the house: its glorious radiance brightens the place and makes glad the heart of everyone who enters. The Christmas tree has become the symbol of that glad season when man rises out of his sordid groove, revives his old friendships and renews his allegiance to his Maker.

We foresters can devote our talents to no higher purpose than providing a sustained supply of Christmas trees, for this nation will remain great as long as we make it possible to continue that grand old custom of bringing home the Christmas tree.

A GREETING FROM YE ED

At this season of good-will Ye Editor and his assistant wish to express their own sentiment to the Forest Service family. It is one of fellowship with both readers and contributors, which though lacking the valuable element of personal meetings is nevertheless a sincerely friendly feeling. We like to get contributions. We enjoy reading them and speculating on what our readers will say about them, or possibly write about them. The Bulletin is a medium for the expression of Forest Service ideas by members of the Forest Service family scattered from Canada to Mexico and from one Portland to the other. It is our own medium. No outsider can break in unless he has a message that we would like to hear. Ye Editors extend you an invitation to make use of this medium during the coming year, but whether or not you contribute, the above expression still stands.

To the members of our field family we wish a Merry Christmas Season, and lots of Happiness for the New Year.



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